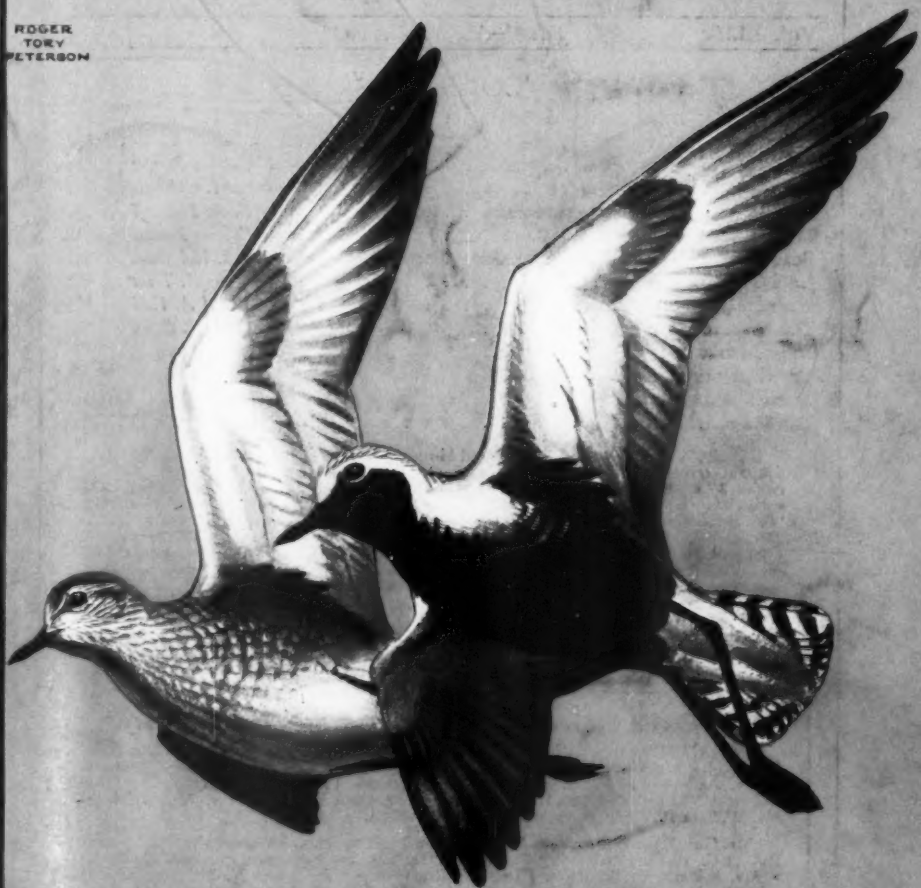


# AUDUBON MAGAZINE

Formerly BIRD LORE

ROGER  
TOREY  
PETERSON



FIFTY-FIVE CENTS

JULY-AUGUST, 1941

Published by the  
NATIONAL AUDUBON SOCIETY

SECTION I

# AUDUBON MAGAZINE

A BI-MONTHLY MAGAZINE DEVOTED TO THE PROTECTION  
AND PRESERVATION OF OUR NATIVE WILDLIFE

*Our Motto: A BIRD IN THE BUSH IS WORTH TWO IN THE HAND*

*Acting Editor, MARGARET BROOKS*

*Contributing Editors, FRANK M. CHAPMAN, LUDLOW GRISCOM, and DONALD CULROSS PEATTIE*

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Photo by Eliot Porter

**THOUSANDS OF OSPREYS STILL NEST ALONG THE ATLANTIC COAST.** *Inland Ospreys have not fared so well, may have decreased seventy-five per cent in recent years.*



# AUDUBON MAGAZINE

JULY-AUGUST, 1941

## Toward Extinction?\*

By Donald Culross Peattie

AS America makes haste to marshal all her forces for defense, it may be well to strengthen, too, our bulwarks against panic, the most insidious of the new 'secret weapons.' Foresight is one thing, terror is another. It will make none of us safer to believe that the human race is foundering—not in the four-hundred-year shakedown of the Graeco-Roman civilization, but with the two-minute sinking of a torpedoed liner. There's been plenty of talk like that. But what is war really doing to human evolution? Is mankind committing race suicide? What are the facts of the case, as a biologist sees them?

This correspondent went to get them, not to London or Belgrade or Berlin, but out of western Wyoming. A long way, that, from the battlefields of the moment—eight thousand miles and more. But life is the battle in which we all fall, and yet it is never lost. And out there in what today is sage-covered Wyoming, the history of the living world rose to a great and triumphant climax. That victory is prophetic.

To see Wyoming as it was then, you would have to lower the Wind River rampart from its 13,000 feet to young hills. You would have to sink the whole of the Great Plains several thousand feet, and put a lake to the

south of this stream, and a few smoking volcanoes about, and imagine that the eastern sea was no farther off than a long bay up into southern Illinois.

That would give you Wyoming of the Eocene, which began fifty-five million years ago and was the opening of geologic modernity. There are many deposits of the Eocene on earth, but none tell quite the fateful story of the Wyoming rocks. For then and here great things were afoot. Four-footed things, with warm blood, milk in their breasts or young in their wombs. The Middle Age of life were over; the armored saurians were gone with the last of the Cretaceous; the sands of Utah have drifted over them. Now to replace them came the placental mammals, the modern animals, and they took the stage with unexplained suddenness. It may well have been from western America that they started out upon their conquest, which has culminated in the lordliest placental of them all.

Before them, making possible their rise, had come the flowering plants, emerging in the Cretaceous period just previous, taking first root, much geological evidence indicates, in the folds of the Appalachians. With this new flora there came into the world sweet

\*A chapter from Mr. Peattie's 'The Road of a Naturalist' to be published later this month by Houghton Mifflin Company.

foliage, good pasturage, soft browse. By the Eocene these plants were free to march, rooting and seeding their way (they had twenty million Eocene years to do it in) across Illinois and Nebraska and the Dakotas, to the foot of the Wind River hills. And at that time and in this place, the new thing called grass sod was perhaps first dented by the foot and munched in the broad herbivore teeth of Hyracotherium, he of the Green River fossils, a creature still only eight inches high. Fifty-five million years later his descendants, the horses stolen from Coronado, were back in Wyoming, forked by the galloping Sioux to hunt the buffalo. For North America lost its primeval horses, just as it did its camels and elephants and tigers, in the last glacial period. But not until it had given them to the lands whence the conquistadores brought them here.

Wyoming has been lifted up, since then, five thousand, six thousand feet, and its mountains have buckled into ramparts eight thousand feet more. Till the snows were gathered on their heads, and the rivers were split and spilled and sent rolling away to different destinies—some to the Gulf of Mexico, some to the Gulf of California, and some to the North Pacific. The whole State has been lifted closer to the sky; its air, once heavy and damp and warm, has been dried and cleansed and set into boisterous circulation; its skies have been peeled of clouds, its soil parched. The sage has come, a modern plant if ever there was one, a shrubby composite pollinated by wind and thus well fit for the wind-swept plains that it inhabits. The Rough-winged Swallows, moderns too, have found Wyoming out; every year they journey all the way from Guatemala to nest there. As it is rich with a great past, so Wyoming is full of the future. It has only begun to live.

This is to think by biological time, of course; but whatever the clocks say,

that is what we all live and die by. It is the most accurate, as it is the most inexorable. "All in good time," we say, and we mean by that some grand inevitable course of happening in which event is foreordained only by those events which went before.

The worst time I know is the empty tick-tocking of a giant pendulum, neon-lighted at night, which swings from the staring clockface over the door of a certain mortician's establishment in Los Angeles. No wonder the crowd hurries past it. It is not so much the reminder of my own steadily approaching demise that horrifies me, as that the measure of time should be a hasty counting out of what is left. Of time, at least, there is no end. And those who talk now of the end of man as an imminent possibility are thinking by the mortician's clock, not biologically.

In months of despair like the world's today, of despair at ourselves as a race, the grand hope of evolution looks a cheat. The emergence of the placental mammals in Wyoming of the Eocene appears from this distance to have been a magnificent event, and, taking ourselves for the end product of that trend, the result of fifty million years of struggle is a disappointing child. Here we, the genus *Homo*, have had—so far as science can discover—about a million years in which to put distance between ourselves and the chimpanzee. And when we go down to the zoo and peer at the wrinkled old gaffer in jail, he embarrasses us because he is so human.

But a million years is nothing, to the wind in the sage, or to the mysterious urge toward change inherent in all protoplasm. There is little Hyracotherium rittuping on his four-toed feet across the Eocene horizon of the Wind River country; ten million years later he has become the three-toed Mesohippus of the Oligocene that followed. Not for twenty million more years is produced

## TOWARD EXTINCTION?

Hipparion, swift as an antelope on his long legs and his one-toed foot that we call a hoof. And still that department of destiny which concerns itself with horses required some thirty-four million years to roll on while modern *Equus* was preparing, till you could lay bets on Sea Biscuit at the Santa Anita track.

So genus gave way to genus in a long line of bigger and faster horses. So species yields to species. No matter how good an organism is, it changes, or it yields, to something better adapted. Do we hear, in slower tempo, the pendulum of doom in this? How long may any one species of placental mammal expect to live?

Referring to the record of the rocks, we can roughly say that the mean maximum might be something like ten million years—which gives *Homo sapiens* at least another nine million of life expectancy. Unless, of course, something suddenly goes against the species.

And at the moment the most powerful living enemy seems to be going against *Homo*—himself. His increased efficiency in the mechanism of suicide looks fatal. But all the wars there have ever been only prove that the ultimate conqueror over mass murder is life. Even what we call total war today is not killing more than a small fraction of the soldiers engaged and the civilians exposed; and the most appalling casualties of battle are obliterated in one generation. Race suicide does not to the biologist appear a likely danger—unless it turns into Thurber's war between the sexes, and his wild-eyed women get the worst of it. For whereas the loss of women would be biologically fatal, even an annual reduction in the male population of many animals is viewed by nature as a reasonable way of cutting down on non-essentials. And if the human race exerted itself far enough in destruction to apply that method, polygamy would simply come

out in the open and balance the budget.

This jovial and amoral view of the present horror is not merely flippant; it is nature's own. And nature gives warning that races do become extinct. It is worthwhile, then, to see what mustn't happen to our human race.

First of all, its young must not be wiped out by other organisms, as the giant reptiles may have been destroyed by the new mammals, some primitive little egg-sucker, perhaps, wiping out the race of dinosaurs still unborn. A human baby is a terrifyingly destructible object. But no other animal in the world takes better care of its child than man; no other brings such a large proportion of them to maturity.

Secondly, there must not be in the species a collapse of the reproductive mechanism, any mysterious failure of the will to continue, like that which, I have heard it said, appeared in the vanishing Heath Hen, and, despite conservation's every effort, finally extinguished it. Females especially must remain abundantly fertile; the seed must set; the egg must be viable. Sterility, still-birth, abortion, are fatal if they become predominant. Alarmists point to the high incidence of these ills among 'over-civilized' women. But they are not exclusive to our society; a certain proportion of birds' eggs, for instance, are destined never to hatch. Some sterility is, if not normal, at least common even in healthy races. And in our own, where the use of hormones is daily better understood and surgical adjustment becomes constantly more practiced, it is probable that the technique of medicine will shortly make it possible to render practically every human fertile.

Third of these presumable apocalyptic dangers is epidemic, some contagion against which no individual of the race has any immunity. In just this way the American chestnut, king of the forest

thirty years ago, has been wiped out before our eyes by a fungus disease from China. Over and over has epidemic disease of one kind or another attacked the race of man, and none has ever conquered. On the contrary, man has overcome many of the worst, and every day his technique for this form of combat is perfected. One century of modern medicine has so swiftly raised our life expectancy that we have birth control as a symptom of our new well being.

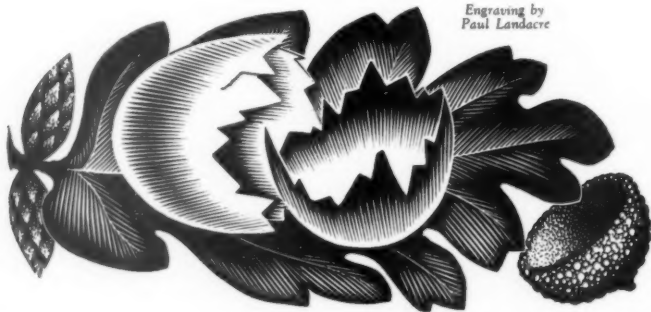
The remaining likely danger to a species is that a closely related one will arise beside it, competing for exactly the same food and habitat and winning the ground by greater strength and adaptive powers. But no rival appears on our horizon. Man is the sole extant species of *Homo*.

And man, after a million years, is as new and undeveloped an experiment as ever were those first placentals in the Eocene. They carried life far forward in that unheard of thing, the womb; what man has introduced into the history of life is intelligence, and novel as it is, groping, imperfect, undeveloped, it is potentially capable of possibilities inconceivable today. All our failures, our sins against each other, of which selfishness comes first and war is a symptom, are due to the rudimentary newness of this thing called intelligence. It is five hundred million years or so behind instinct in its utility; the

termites settled their social organization ages ago, and now wage war only against ants, never among themselves.

That it is dangerous is true; so is blind instinct dangerous, which sends the lemmings into the sea. Granted that intelligence is an experiment. But look back at evolution to see what has become of all the major experiments that nature has ever tried, and you will discover that nothing that was good has ever been permanently lost. The eye and its sight, for instance, once invented, have become better and more firmly fixed. The hand, the care of the young, the green leaf, the seed, have all grown more effective. What has failed has been sloth, stupidity, dependence upon armored plates and mere ferocity. The rigid, the self-limiting order goes down. Intelligence pushes up, with the current, the mighty, the irresistible current of evolution, which branches like a river, like a tree. Final product there is none, not even man. He too must change, and by the one fiat which has held since time's beginning, he must grow. Nine million years would seem an ample era for any species to grow toward improvement. And after that, after *sapiens*, perhaps, some species as far beyond him as he is far from *neanderthalensis*, some newer species not merely intelligent but wise, may walk the earth, deserving of his place on it in the ancient sunlight.

Engraving by  
Paul Landacre



## Hudson Bay Bird Metropolis

By Lawrence I. Grinnell

**A** GLANCE at the map of life zones in Chapman's 'Handbook of Birds of Eastern North America' is sufficient to explain the unique suitability of Churchill, Manitoba, on Hudson Bay's southwestern coast, for observation of northern breeding birds and the reasons for its lure to ornithologists. The explanation is simple. No other place in North America combines its advantages: 1) a locality bordering the overlapping edges of the Hudsonian and Arctic life zones; 2) a region bordering on a large sea; 3) an area accessible by railroad.

Churchill provides habitats of both Hudsonian and Arctic life zones in close proximity—the Hudsonian zone in the so-called 'bush,' mainly of spruce; and the Arctic zone in the form of open, wet tundra, dotted with pools and lakes. Actually, edges of the two zones overlap and are not always well defined, as in the partly forested areas that are interspersed with treeless regions. Birds which are peculiar to each zone therefore breed within a stone's throw of each other. In the bush will be found such birds as the Lesser Yellow-legs, Gray-cheeked Thrush, Harris's Sparrow, Canada Jay and Northern Shrike; on the tundra numerous species of water and shore birds and ducks, as well as Willow Ptarmigan, longspurs and several others. Redpolls frequent the edges of both zones when nesting.

Because of Churchill's proximity to Hudson Bay, it is likewise ideally situated for the study of water birds. Swimming near shore are scoters, Amer-

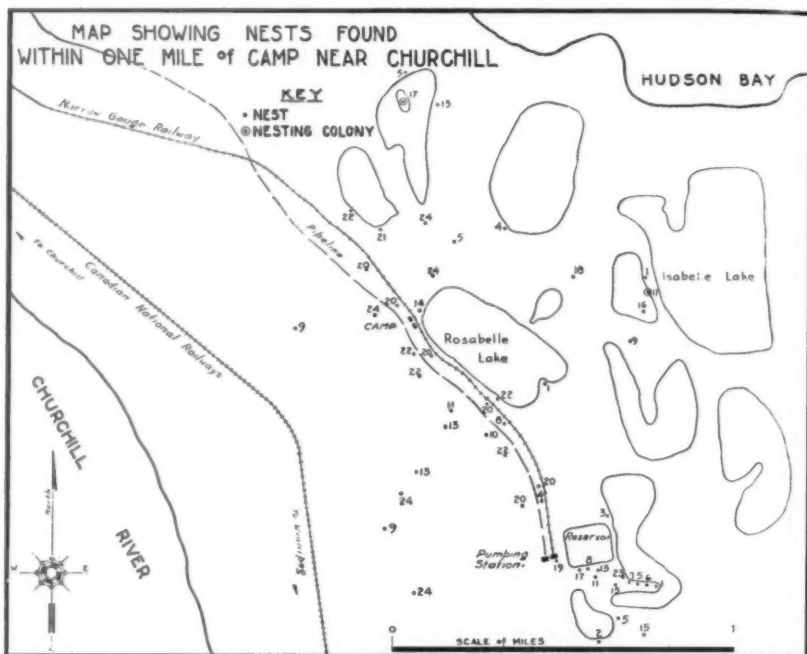
ican Eiders and Old-squaws, while on the rocks overlooking the bay Snow Buntings and pipits are found.

The third advantage, accessibility by railroad, is unique in North America, for no other railroad on this continent connects the Arctic life zone with temperate regions.

It must be admitted, though, that railroad service to Churchill is not exactly streamlined or frequent. In summer, train service between The Pas and Churchill, a distance of 510 miles, varies from one mixed passenger train per week in early June to two trains per week in July. Speed of the June train seldom exceeds twenty-five miles per hour. Lack of extra train crews requires two overnight stops, one at Wabowden, the other at Gillam; you take your choice. If you have blankets, you pull together the seats of the tourist coach and spend a noisy, dirty, picturesque, but inexpensive night with Indians and backwoodsmen as fellow travelers, otherwise you stay at small, clean boarding houses. Hot meals are served en route by an old-timer who also acts as magazine agent.

The journey from The Pas to Churchill traverses a monotonous forest of spruce, larch and aspen, occasionally varied when it suddenly bridges some tumultuous river which roars in and out of nowhere. As we proceed north, the aspens gradually disappear and trees thin out into tundra. Telegraph poles are built in tripod form to prevent falling, due to their weak muskeg support. In the beginning of June the

# AUDUBON MAGAZINE



## KEY TO NAMES OF SPECIES

- |                           |                          |                            |                      |
|---------------------------|--------------------------|----------------------------|----------------------|
| 1. Arctic Loon            | 7. Willow Ptarmigan      | 13. Stilt Sandpiper        | 19. Northern Flicker |
| 2. Pied-billed Grebe      | 8. Semipalmated Plover   | 14. Semipalmated Sandpiper | 20. Horned Lark      |
| 3. Baldpate               | 9. Hudsonian Curlew      | 15. Northern Phalarope     | 21. Eastern Robin    |
| 4. Pintail                | 10. Least Sandpiper      | 16. Herring Gull           | 22. Common Redpoll   |
| 5. Old-squaw              | 11. Red-backed Sandpiper | 17. Arctic Tern            | 23. Tree Sparrow     |
| 6. Red-breasted Merganser | 12. Dowitcher            | 18. Short-eared Owl        | 24. Lapland Longspur |

Willow Ptarmigan, still in their glistening white winter plumage, are abundant. With luck, one may see Barren Ground Caribou. Finally, Churchill's immense white grain elevator looms into view and our journey nears its end.

Upon arrival in Churchill on June 2, we made a brief stay of three days in a small boarding house in order to observe the abundant bird life around sloughs of the townsite, particularly such transient birds as Ruddy Turnstones, Hudsonian Godwits and Snow Buntings. But observation of the town birds was so subject to interruption by underfed dogs, Chippewyan Indians and small boys that we soon selected

much more efficient headquarters at two cabins a couple of miles southeast of Churchill. These cabins are used during fall ice-cutting operations to provide Churchill with its source of drinking-water during the winter. They are conveniently situated next to a narrow-gauge railroad connecting Churchill with its summer water-pumping station. Food supplies were shipped out to us each week on a flat car of a dinkey-engine train.

The cabins were ideally situated on the tundra, close to innumerable little shallow, clear ponds and lakes, frequented by water and shore birds. Their proximity to the edge of the bush also commanded a territory hav-



## HUDSON BAY BIRD METROPOLIS

ing a wider variety of bird species. Soon we had the shacks cleaned, tin cans removed, broken windows tacked up with cardboard, old overalls packed around unused stove-pipe openings, a coal stove borrowed from the machine shop in Churchill, and—what proved to be a life-saver during early nocturnal freezing temperatures—a half-ton of coal in ten bags bought from the railroad company.

We were little troubled by visitors: a few prowling dogs; one Barren Ground Caribou which dashed into our lake, hotly pursued by an Indian; an Arctic Weasel, whose house was a culvert twenty feet from our doorstep; and a captive Richardson's Lemming, which bore a litter of three hairless young (she apparently tired of one child, so ate it); but the birds were everywhere.

For a worthwhile bird study one should remain on the tundra, from the beginning of June, when the ice runs out of Churchill River into the bay,

to the middle of July, by which time most water birds have left their nests and the bird metropolis has been once more vacated. The nesting phase of a majority of the birds occupies at least most of this period.

We found the early days of June, before the distractions of nesting activities, to be an opportune time to become familiar with bird calls with which we were unacquainted in the States. Quick recognition of them became handy later:

The shriek, bassoon-like grunt, and other calls of the Arctic Loon, quite different from the quavering wails of the Common Loon, and uttered repeatedly between a series of plunging dives when concerned for the safety of its young.

The guttural stutter—*onk, onk, onk-a-lee* (ascending triad)—of the Old-squaw, whose blotchy facial appearance suggests the effect of removing dark glasses from an otherwise sunburned face.

**OLD-SQUAWS AMONG HUDSON BAY ICE CAKES.** *Their nests are widely scattered over the tundra, and the eggs frequently destroyed by prowling Eskimo dogs.*

*Photo by Ralph S. Palmer*







Photo by Ralph S. Palmer

**TYPICAL TUNDRA REGION.** Near Churchill, the Hudsonian zone with its 'bush,' mainly of spruce, often overlaps with the Arctic zone's open, pool-dotted tundra.

The Baldpate's faint whistled *piddl-iddl*.

The Willow Ptarmigan's challenging *b-b-b-b-b-wet-wet-wet-wet-wet-wet*, uttered from a conspicuous hummock.

The Semipalmated Plover's complaining *cher-wée*.

The Wilson's Snipe's ascending courtship winnow, reminiscent of a passage in Grieg's C minor Violin Sonata; one of the latest voices to cease after a 10 P.M. sunset.

The Hudsonian Curlew's warning whistle—*bep-bep-bep-bep-bep*.

The rattles of the Least and Semipalmated Sandpipers as they flutter-sail in Bobolink style, uncharacteristic of migration flight.

The Stilt Sandpiper's donkey-like bray—*yonb-yonb*; its *te-oóp*, *te-oóp* of disgust if you invade its territory; its short call—*úlick*, *úlick*, and its longer call—a fast *tut-tut-tut-tut-tut-tut-tuttle-a-wee-tuttle-a-wee-tuttle-a-wee!*

The Jaeger's mew.

The Arctic Tern's air-piercing squeal; as it repeatedly stabs the top of one's hat in posted territory.

The Short-eared Owls' sneezes, as they circle anxiously like magnified Polyphemus moths high over their brood of five wizen-faced youngsters, impatiently awaiting a chance of serving them raw lemming.

The Northern Shrike's whine, *pee-e-e-e*, *pee-e-e-e-e*, from a spruce-top, protesting our interference with the capture of its prey.

The horned larks' irrepressible conversation (they gossiped on the cabin roof at any hour of day or night).

The redpoll's interrogatory *tu-wée?* *tu-wée?* of sweet Goldfinch-like quality, but more constantly and insistently questioning.

The Harris's Sparrow infrequent sotto-voce, drawled *twée-e-e-e-e*, *twée-e-e-e-e*, with head tilted back.

## HUDSON BAY BIRD METROPOLIS

The Tree Sparrow's miniature college cheer.

The Lapland Longspur's stump oration from a hummock, as if announcing that "the winters in Churchill are very sevéé-ere."

The Smith's Longspur's reiterated, sweet encomium of an Italian celebrity, whose last name sounds like "De Vespisi."

\* \* \*

Vivid little incidents provide an indelible series of tundra memories. Here are a few:

The quick one pulled by Arctic Loons. A nest was discovered by the edge of a pond and a blind placed near it. By the next visit one egg had hatched, the other had just been pipped; both parents were on the water fifty yards away, unaccompanied by any young bird. The female dived and shrieked incessantly. I entered the blind with

the movie camera. The female presently calmed and started swimming toward the nest. This seemed to be a roseate opportunity to film her awkwardly emerging from the water and waddling up the bank on her short legs to the nest. But her plan of action was not as anticipated: She paused for a moment on the shore, two feet from the *side*, not the *front*, of the blind where the camera was pointing, then, to our astonishment and chagrin, steamed vigorously away as convoy to a pretty little blue-gray chick that had hidden in the reeds within arm's length of us. We were later compensated with generous photographic opportunities when the second chick hatched.

We had a dialogue with a Willow Ptarmigan. A cock, posted on top of Churchill's pipe-line, challenged us in Willow Ptarmigan dialect. We sat down and sassed him for fully a minute, somewhat as follows:

***A SEMIPALMATED PLOVER SETTLES ON HER EGGS. Of the seventy-six species seen around Churchill, the nests of twenty-four different birds were found.***

Photo by Ralph S. Palmer



## AUDUBON MAGAZINE

*Willow Ptarmigan:* B-b-b-b-wet-wet-wet-wet-wet!

*We:* You think you're the whole cheese, don't you?

*W. P.:* Wet-wet-wet-wet-wet-wet!

*We:* You stuffed shirt, you're only good for eating.

*W. P.:* Wet-wet-wet-wet-wet-wet! (disgusted, flies off).

But the laugh was on us. Returning to the same spot a few days later we flushed a covey of well-grown chicks able to fly. We had lost the opportunity for a picture of ptarmigan nestlings by not having been more suspicious on first introduction to the old man.

Other shorter but nonetheless vivid memories:

That glimpse of seven Lesser Snow Geese flying in a straight line two hundred feet above the tundra, their white plumage shining in reflected sunset light.

The first southward migration of Hudsonian Curlews: twelve flying on

July 19 in single file, swift and purposeful as compared with their nesting behavior.

A female Least Sandpiper skating unsteadily over a slippery cardboard to rescue her chicks from being photographed.

A faithful Red-backed Sandpiper incubating its eggs—our prize movie actor, always returning almost immediately after being flushed.

Our first sight, on the day of arrival, of two aristocratic Hudsonian Godwits in company with smaller sandpipers, their black and flesh-colored bills lending distinction.

The Arctic Tern air gangsters, ever forming gangs of twos and threes to attack a jaeger, Marsh Hawk, Short-eared Owl, or man, and in turn being held up by small gangs of jaegers operating in long-radius swoops to bully the tern into releasing its freshly-captured fish.

A Northern Shrike's attempt to

**STILT SANDPIPERS WERE COMMON BREEDERS.** *Nests of most water birds were found near borders of tundra pools, especially on isolated little peninsulas.*

*Photo by Ralph S. Palmer*





Photo by Ralph S. Palmer

**NO UNION HOURS FOR CHURCHILL'S BIRDS.** *Between 3.30 and 5 A.M. was a particularly busy feeding time for nestlings of the Common Redpoll.*

attack a Red Squirrel that capered leisurely over the ground, utterly ignoring its pursuer.

✓ ✓ ✓

Photography, early in June, was devoted to horned larks, Lapland Longspurs and White-crowned Sparrows which, before nesting, were easily induced to pose on a stone baited with millet seed; also two Northern Phalaropes which at this time seemed to be too absorbed in aquatic, pivotal feeding to notice loiterers (but they were shy nesters). Their later restlessness on the water entailed considerable film-editing because of frequent pictorial beheadings and incorrectly focused shots.

Before the middle of June daily trips were made to quickly accessible areas to locate a maximum number of bird territories. We found it well to insure picture production by locating more than one nesting territory of the same species, for predation by small packs of

wandering dogs and other animals was astounding. Several nests of various species were found prematurely deprived of eggs.

The accompanying map gives but an incomplete picture of the wealth of bird life located within a radius of one mile from camp. Most of the nests indicated were found during searches entailing only a fraction of the total time, the remainder being reserved for life-history studies. Had it been desired, many more nests could have been found of Semipalmated Plovers, Least, Semipalmated and Stilt Sandpipers, horned larks and Lapland Longspurs, but we were already overstocked with these. Of a total of 76 species which we saw around Churchill, the nests of twenty-four different species were found. Of course some of the species seen were destined to nest farther north in the Arctic Circle.

The densest populations of water birds were discovered near borders of



Photo by Ralph S. Palmer

**MOST ABUNDANTLY SEEN BIRD ON THE TUNDRA.** *The Northern Horned Larks would start their irrepressible conversation at any hour of the day or night.*

tundra pools, especially on isolated little peninsulas. Early in June, when all the tundra was wet and soggy, nest distribution was much wider than later when certain areas that became drier were much less used.

Bird life around Churchill knows no union hours. Activity seems to prevail here whenever there is reasonable light, in June and July from about 3 A.M. to 11 P.M. Observation of a pair of Common Redpoll parents showed 3.30 to 5 A.M. to be an extra busy feeding time for their ravenous nestlings. Bird curfews are late. Even at 9 P.M. the Arctic Loon, Old-squaw, Willow Ptarmigan, Hudsonian Curlew, Wilson's Snipe, Arctic Tern, Black-poll Warbler, Savannah and Tree Sparrows and Smith's Longspurs were all heard

rendering their usual program.

On the tundra one's photographic hopes fluctuate, like a 1929 price chart, between India ink despair and ecstasy. An abysmal low was hit one morning when we found nests of a Hudsonian Curlew, Stilt Sandpiper and Arctic Loon, in front of which blinds had been placed, were all robbed of eggs. We suspected two recently prowling huskies of having perpetrated the deed. We surged into ecstatic highs the next day, however, upon the discovery of two new nests of Arctic Loons, another of a Stilt Sandpiper, those of an Old-squaw, Red-backed Sandpiper, Red-breasted Merganser, and two Northern Phalaropes. A fair compensation!

It was an encouragement to find that nest-hunting, so difficult at the start

## HUDSON BAY BIRD METROPOLIS

of incubation when birds are shy, became simpler toward the end of that period when they permitted closer flushing. At early stages of incubation a Hudsonian Curlew, upon approach of an intruder to within a quarter mile of its nest, will bustle over at full speed like an officious motorcycle policeman, and, like the Lesser Yellow-legs, alight on a spruce-top where it will lurch precariously and blaspheme. Curlews are always ready flushers, but as hatching time nears they may permit a twenty-five-yard approach, which for such large birds is likely to betray the location of their nest on an exposed hummock. For several of the smaller sandpipers a blind at that time no longer became necessary; not so the Northern Phalaropes, with whom nth-

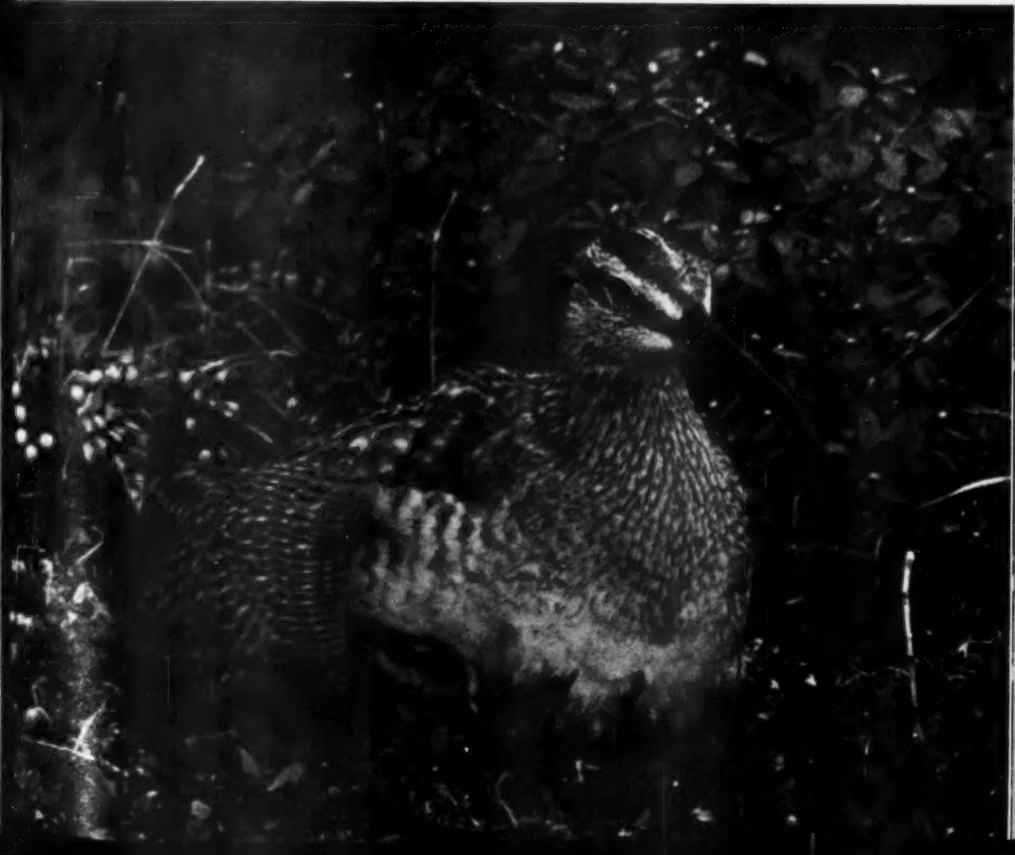
degree strategy was always found requisite.

Our frequent use of the accepted practice of having a second man walk away from the blind undoubtedly reduced delays in waiting for nesting birds to return. Most birds returned within five or ten minutes. A Short-eared Owl returned in ten minutes when a 'walk-awayster' was available, but on another occasion, when no second man was present, failed to return at all.

It was found essential to plan photography of nesting birds well in advance. Wet tundra areas were subjected to the laborious process of careful daily patrols in high boots, not only for new nests, but also for determining the status of previously discovered nests. An indication of incubation prog-

**HUDSONIAN CURLEWS SAT CLOSELY AS HATCHING TIME APPROACHED.**  
*At earlier stages, they would lurch precariously on a spruce-top and blaspheme the intruder.*

*Photo by Ralph S. Palmer*





ress was surmised by the female's lessening degree of reluctance to flush from the nest, and her increasing tendency to linger near-by and protest.

The peak of the season—around the first ten days of July—when many nests had to be inspected, was an extremely busy time. Light, square blinds, say four feet high, quickly constructed from driftwood and covered with burlap or light muslin, were transported to nests where hatching was imminent, and, in the case of shier birds, first set at some distance so as not to cause desertion, then, after a day, moved nearer. The almost daily windstorm on the barrens required blinds to be rigidly anchored with guy ropes. Pieces of turf were placed on the ground edges of the blind covering so as to exclude mosquitoes and prevent the bird from being frightened by flapping. During one sultry hour in a blind 170 of these pests were killed without haste as they lit successively on cotton-gloved hands.

By installing several blinds simultaneously we were able to boost picture production. When eggs hatched we operated four blinds within a half-mile radius and tried to locate them so that after one picture was completed minimum shifting would be necessary.

When filming birds on the nest, we tried to avoid merely a monotonous view of the sitting female, but also attempted to record her approach to the nest. Sometimes we took the easier sitting picture first, then flushed the bird and later filmed the reapproach to the nest. When editing the reel the approach section was inserted in front of the sitting section, thus securing continuity.

For shore or water birds it was important to be on hand the exact day when the precocious downy chicks were hatched. This was generally the only opportunity to snap them. Another day they often disappeared. Some

ducklings escaped out of range on a pond with an enlarged communistic family of chicks under the vigilant auspices of syndicated parents. One Old-squaw syndicate on our lake numbered sixty-five individuals. Systematic patrolling offered the maximum chance of catching the birds at hatching time.

Defects in camera equipment have an unhappy knack of occurring on days when one is hundreds of miles away from the nearest repair office. At that time a makeshift repair may treble the number of steps necessary to take a picture. For example, it sounds simple enough to film a nesting bird after the camera is mounted on a tripod, but defective metal once caused the tripod yoke which gripped our camera support to fracture. The camera, therefore, with the added weight of a telephoto lens, would collapse unless the tripod support was stiffened by inserting a steel wedge. This lengthened the formula for taking a simple movie shot to twenty-two different steps, of which every other one was to slap mosquitoes. When the tripod wedge happened to loosen during the process, which it sometimes did, the number of steps was increased to thirty-nine.

Another ailment occurred to the reflex mirror mechanism of our miniature camera in that the operating cable refused any longer to raise the reflex mirror and operate the shutter release in one stroke. Consequently, the fingers of one hand had to press the cable release, while those of the other hand operated the shutter release button. With a restless bird the number of snaps had to be trebled to assure taking at least one sharp picture by the retarded operations.

It seems only fitting to close with a grateful dedication of this article to that famous household article, without which our diary might never have been written: our faithful quart can of 'Flit.'



## Above Mount Rainier's Timberline

By Gayle Pickwell

With photographs by the author

**M**OUNT Rainier, in the State of Washington, is the Northwest's grandest old volcanic cone and stands like a white-capped ice-cream cone, somewhat isolated and far above neighboring mountains, with more than 7000 feet of its elevation rising above timberline. Out from its hoary dome radiates the greatest collection of mountain glaciers of the United States; snow fields remain unmelted throughout the year over much of its upper slopes. Four species of birds make their home in its extensive Alpine-Arctic zone; there are wild-flower fields, vast and breathtaking. Of the Northwest's other snow-capped peaks, Mount Rainier towers tallest of all.

An irregular arctic region rings the circumference just above timberline; and here Hepburn's Rosy Finch, the White-tailed Ptarmigan, the Pallid Horned Lark and the American Pipit find homes for nests and food for young. Here is presented the bird life at the margins. The timberline and the life above it was observed, studied and photographed on the Paradise or south side of Mount Rainier, and also on the White River or northeast side of the mountain. When work was begun at Paradise on July 4, there was still ten feet of snow before the Paradise Inn and a tunnel led through it to the door. Just above, in the Edith Creek glacial cirque or amphitheater, there were still broad fields of deep snow and only island-like mounds were beginning to show through.

### *Flower Meadows Just Below Timberline*

Paradise is in that Hudsonian life zone that has the first of the high mountain meadows and the last of the high mountain trees. Above it, trees are restricted to rims and ledges that are blown free of snow during the wintry blasts; and the great depth of snow persisting throughout July in such depressions as Edith Creek cirque, make this a true arctic region. It is just above Paradise that the most spectacular of Mount Rainier's flower fields bloom. Just as the snow retreated the first of July from mounds in the Edith Creek cirque, wild flowers bloomed; and white snowbanks showed behind the beautiful lavender of the western anemone, the yellow of the potentilla, and the yellow and white of the avalanche lilies. Nearly as soon, white heather shook forth its fairy bells and soon, also, the red heather.

Toward July's end, on a return to Paradise from the White River camp, the snow had been reduced to small islands where before it had been a sea; and Edith Creek cirque had changed its garb of yellow and lavender for gaudy mounds of blue alpine lupine and the scarlet of paint brush. Some yellow potentilla still remained, but the color scheme had changed from yellow, lavender and white to blue and red. Within the lupine mounds, mountain dock nodded and added a note of graceful white to the brilliant colors.

The beauty of one of the little flower-bestrewn mounds surpassed description.



*HIGHEST, MOST GLACIER-GOUGED MOUNTAIN OF THE NORTHWEST, Washington's Mount Rainier has an extensive arctic life zone area above treeline and below its barren summit.*

These eminences, about three hundred by five hundred feet, probably originating from countless diggings of the Cascade Hoary Marmot, were thickset with the blue of lupines and crimson and rose of paint brush, the yellow of potentilla and the pure white of the heads of dock and valerian, all surmounted by the bearded heads of western anemone now in seed and standing like hoary guards over the newer flowering generation.

#### *Flowers Above Timberline*

On Mount Rainier's northeast side, timberline was reached by following the trail to Yakima Park with its glorious meadows and its scattered upright copses of alpine fir. From Yakima one climbed but a few hundred feet to reach the point at the fringe of the Arctic where alpine firs, under the duress of long winters and deep snows, were reduced to low sprawling mats never more than two or three feet high.

And just above these fir mats the true arctic flowers bloomed. One of the most appealing of these was a purple aster, and another that stood just above the thick moss growing at the edge of melting snow was the Alaska spirea; and toward July's end, over wind-swept ledges, mountain phlox bloomed and gave to the air a fragrance that was part of the grandeur that lay all about.

Though most of the rocks were bare, vegetation did occur. At a place where a ptarmigan family fed, several springs of varying size broke through the rocks and numerous algæ and mosses formed a dense mat over a considerable region. Other vegetation was largely Alpine-Arctic with a little admixture of Hudsonian—a few clumps of purple aster, considerable white saxifrage, a yellow monkey flower not over three inches high that lined either side of a little rill just after its emergence from the ground, and large patches were pink with epilobium and two species of veronica.

## ABOVE MOUNT RAINIER'S TIMBERLINE

A little Alaska spirea was also present and in bloom. All of this vegetation showed its arctic habitat, for none of it grew more than three or four inches in height. Yet in that vast area of blank rocks, great snow fields, and frowning cliffs, it was a little Eden especially made, it seemed, for ptarmigans.

### *Birds Above Timberline*

At one time, a small group of Hepburn's Rosy Finches was being observed on a small island in Edith Creek cirque. Although no person had startled them, they flew away in great alarm. A Least Weasel forthwith protruded its head from a burrow on the mound, retreated, and came forth again from a near-by burrow. Beyond this, the secret of Hepburn's Rosy Finch on Mount Rainier was not solved.

*White-tailed Ptarmigan.* Better fortune attended the observation of the other birds in their Alpine-Arctic home. On one journey in early July, a female

White-tailed Ptarmigan was seen sitting quietly at the base of a felsite boulder. Photography was begun immediately, first at a distance of thirty or forty feet and then, to the photographer's astonishment, since the subject did not move or even show much interest, at closer and closer range until the camera was within six feet of the bird; but still she continued to browse on the near-by red heather. When the photographer was thus near the hen, a sudden growl was heard and a cock ptarmigan with red upper eye-lids came over a neighboring boulder in nervous fashion. Forthwith the camera was turned on him, but since the hen was no longer molested, he soon lost interest and quietly walked away.

The behavior of the Rainier White-tailed Ptarmigan in early July indicated that the hens were probably still laying eggs or incubating, though nests were not discovered. Yet when the observer returned in late July, after work out of

**BEAUTIFUL BELLS OF THE WHITE HEATHER BLOOMED on the little mounds that rose out of the melting snow of Edith Creek amphitheater.**





*FOLLOWING ON THE HEELS OF THE SNOW, the pale lavender western anemone presented one of the most beautiful floral spectacles.*



**SENTINEL DUTY FOR THE HEN WHITE-TAILED PTARMIGAN.** *From the bouldertop, she guarded her chicks while they browsed on the moss beneath.*



## AUDUBON MAGAZINE

White River camp, the hen White-tailed Ptarmigans were guarding newly hatched chicks and the cocks were not seen again.

On one occasion, just below McClure Rock at an elevation of 6700 feet, a hen ptarmigan and several young browsed on the new and succulent moss that was growing there at the margin of the snow. The hen mounted a rock as if on sentinel duty, clucked peacefully while her chicks browsed, and seemed to be almost unaware of the near-by photographer and the eye of his big camera. But she did become very alarmed when one of her chicks, in running down from the area of moss, accidentally ventured onto a snowbank where it was very conspicuous. She scuttled to it in clucking alarm. When the chick finally tumbled over the ledge down again to the boulders, she lost her anxiety and began to preen, though still on the bank of snow.

Again, as she stood on a lookout

boulder clucking quietly, the ears of a trail pony appeared over a neighboring ridge. She called loudly in alarm and the chicks, browsing on the moss below, rushed to crevices and 'froze' there while her alarm calls continued. As the trail pony approached, the hen, seeming to recognize it did not presage danger, began to cluck mildly and the chicks came forth from their hiding to continue their browsing.

*Pallid Horned Lark.* This horned lark, one of the sixteen varieties in North America, normally associates its pale coloring (it has no yellow) with the snows of the true arctic region of this continent, but on the high mountains of the Northwest it finds the Alpine-Arctics just as suitable. It had been reported nesting on a plateau-like summit of Burroughs Mountain on the northeast side of Mount Rainier, and here it was found. Its behavior was that of a bird with young just out of the nest. This was finally proved by

**INCUBATING PIPIT BENEATH HER SHELTERING BOULDER.** *Photography through heavy fog-like clouds eliminated the great contrast of light and shadow.*





*A PTARMIGAN CHICK WANDERED ONTO A SNOWBANK, and the hen was much alarmed until it tumbled down to obscurity on the dark ground beneath.*

the discovery of a recent nestling with the attendant alarm and distress of the male and female birds. The young had been located by the food-carrying of the parents.

*American Pipit.* The walking, tail-wagging, *pleep-eeep*-ing pipit that flies over the cities in wintertime of much of the United States, and is present in large numbers on bare fields and at the margin of such mud flats as those of the south end of San Francisco Bay, is a strikingly different bird in its arctic home. It finds such a habitat short of the Arctic Circle by living above tree-line on the high mountains of the Northwest.

On July 5, with snow still many feet deep in most of the Edith Creek amphitheater and only little islands of soil appearing in the snow, male pipits were fighting vigorously for a home territory in this arctic world. Females browsed about as they looked for nesting sites, and the first nest was discovered on

July 7. It had its first egg on July 8, and the female was incubating July 11.

The pipit in its winter home is one of the most insignificant of birds—walking, tail-wagging, it is true—but with an inconsequential mild, peeping note. In its arctic summer home for a brief period of two or three weeks the male sings a riotous song, mounts into the air and sings as it rises with steady beat of wing up to a height of four or five hundred feet. Then it turns the record over at the summit and sings as it comes down, wings held at a steep angle, the body zig-zagging slowly to earth.

Two pipit nests were discovered on the interpass between Burroughs and Fremont Mountains and one of these was followed almost daily until it ceased to be occupied. The nest at the base of Burroughs Mountain was surrounded by yellow heather, an index form of the Alpine-Arctic life zone. The young were fed insects by the



## AUDUBON MAGAZINE

parent, which were captured near at hand and frequently fed to them by the adult bird walking from the point of capture to the nest.

In the beginning, the pipit in its nesting home was a very timid bird. The first pictures were taken from a snow fort built at the edge of the island on which the nest was located. Later, photographs were secured from a blind made of some waste wood that had been used in the construction of a dam on Edith Creek. On the northeast side of Mount Rainier, the first photographs were taken from a blind made by arching alpine fir boughs over a hole; but this later pipit became so lacking in timidity that before its photography was completed the photographer sat beside the legs of the camera within a few feet of the nest and the pipit fed even though it marched within a few inches of his boot. Incidentally, though

this alpine fir blind served to cover the photographer admirably, it allowed mosquitoes to come in between the interstices of the branches like a steady smoke. The mere opening and closing of a hand would get some. Many others were killed by deliberate methods, and though neck and sides of the face were covered and arms steadily swung, the forehead was soon a row of tubercles. The observer has never been attacked by more mosquitoes in broad daylight.

After extensive work with the pipit on the northeast side of Mount Rainier, a return was made to Paradise. The little islands in the sea of snow had now become major continents with little islands of snow. Wild flowers still bloomed riotously and Indian paint brush made great splashes of color everywhere, surrounded by the grizzled heads of the seeding western anemone.

**LACK OF TIMIDITY MADE THE BLIND UNNECESSARY.** *This American Pipit ignored the photographer's presence a few feet away as it fed the nestlings.*





**WILD-FLOWER FIELDS IN BLOSSOM.** *Alpine firs stand straight at 6000-foot elevation, but just above, the treeline forms a ridge of mats.*

#### *Weather and Photography*

Early July weather of Paradise was accompanied by brilliant sun during some of the days, and on others by especially heavy and chilly fogs, which were merely high mountain clouds at ground level. Nights were frequently below freezing, since snow was still widespread; and the developing of negatives, which was done each evening after the belated sun and its attendant light had dropped to a point where developing was possible, was always accompanied by a numbness of fingers caused by the chill of the mountain water and the weather.

The White River camp was at an elevation lower than that at Paradise and the temperature was more pleasant; but pit photography was done at 6500 feet, between the outlying Burroughs and Fremont Mountains, which

were so close to the great precipitous and cold Willis Wall on the north side of Mount Rainier, where clouds frequently formed and often drifted over the home of the pipit, that the weather was an impressive factor.

Cloud formations on Mount Rainier made possible some of the pipit photographs which could not have been secured under the bright and scintillating sunlight. The pipit in the Edith Creek amphitheater nested on a large island under the edge of a boulder and was in such a dense shadow when the sun shone that photography was impossible. However, with the camera set up and focused on the bird when the cloud was at ground level and thickest, with the sun totally obscured, the light was so diffused that the pipit on the nest showed as plainly as if it were not under the edge of the rock.



## The Nature of Things

By

DONALD CULROSS PEATTIE



I BET anyone a Roc's egg that I am the first person in the world to use Roger Tory Peterson's 'A Field Guide to Western Birds.' If I had merely placed my order for an early copy, I could not assert this. But in addition to doing so, I received two copies well in advance of publication, one for review in the New York *Herald Tribune*, and a complimentary copy from the editor, Mr. Paul Brooks of Houghton Mifflin, who happens to be my own editor, and a friend.

Thus prepared—with one copy filed on my quick-grab reference shelf, and one on ice, with the cork half drawn, on the rear window ledge of my car, I was prepared to give the handy little volume an immediate test. I tried it on the gulls—and I don't have to tell you that the famed Peterson rapid-identification system works in the West with the same *Blitzkrieg* efficiency as in the East. What I really want is a chance to use this gifted artist and author's technical devices on the ducks, but for that I have, in Santa Barbara, to wait until the *Anatidae* return in fall.

I hope I don't have to tell any reader of this magazine what the principle of the system is. But in case I'm woefully disappointed in my readers and they weren't paying attention when Mr. Peterson's 'Eastern Guide' came out, the system (to take the ducks for example) is a page covered with pictures of many different kinds of ducks likely to be seen together at the same season or in the same type of habitat. But unlike most manual's illustrations,

these do not represent ducks as they look when you have a specimen in hand. For of course in ordinary field experience you have no chance of seeing delicate tints in duck plumage, and even with good glasses you are not likely to find it easy to distinguish the Blue-winged Teal from the Green-winged. Ducks usually see you before you see them, and even if they remain quiescent, trusting to distance, soft shades of green and blue, cinnamon and ruddy, do not show up as such when seen against the dazzle of water. Wild ducks (and geese) in life appear almost wholly as outlines, and outlines only of the upper two-thirds of the bird, the lower part, of course, submerged.

Peterson's nifty little drawings, looking much like wooden decoys, give the camouflage pattern of these wary little navies. They give, in black and white and gray, the same three tones that are about all we honestly see in the field. The disposition of these color patterns, and the shapes and relative sizes of the birds, are all compactly contrasted. On the page of fresh-water ducks, for instance, three minutes' study will fix those outlines in your memory, so that you'll never forget the stately Pintail when you meet him in life. The same is true of the next page, where the differences between Canvas-back and Redhead are brought out at a glance.

There are colored illustrations where color is necessary. There are standard descriptions and some brief notes on distribution. On the whole, the transcriptions of song are as good as printed

## THE NATURE OF THINGS

syllables can be. I tested out at once, for instance, the elusive songs of two very fine western Wrens, the Cactus and the Cañon. I can't say whether Peterson's descriptions would enable one who had never heard these songs to recognize them after reading about them. But I can believe that Mr. Peterson has heard them; and I can say that they brought back to me their separate and magical connotations—the one so harsh and strange, reminding me of desert morns, and the other so wildly rapturous—like Sierra brooks.

✓ ✓ ✓

It isn't often that a splendid ornithological work, published more than half a century ago, is still in print, in its first edition—and practically as useful today as then! Yet I actually handled such a work the other day, and the book, which was once enthusiastically reviewed by Elliott Coues and Robert Ridgway, and other famous ornithologists of our Middle Era of American science, is 'Illustrations of the Nests and Eggs of Birds of Ohio' (with text). The author, Dr. Howard Jones, was born in Cleveland eighty-seven years ago, and is still living at Circleville, Ohio.

The illustrations of Dr. Jones' *chef d'œuvre* are of the finest, and they deserve all the praise once lavished on them. They are the work of the author's sister, Genevieve Estelle Jones, who died in 1879 after starting them, and of his mother, Mrs. Virginia Jones.

The production of so costly a work is always a problem to the scientist, especially the amateur without an institution behind him. In this case the problem was solved by the author's father, who gave all his life's savings to the task. In how many unknown cases, I wonder, is the work of a scientist or an artist underwritten by some devoted member of the family?

Dr. Jones is also the author of a valuable little companion piece in my library—'A Key for the Identification of the Nests and Eggs of Our Common Birds' (1928) as well as a volume of *souvenirs ornithologiques*, 'Birds of My Boyhood' (1925). I learn from it that Dr. Jones is able to remember back to the Passenger Pigeons. I may be wrong, but it sounds to me as though Dr. Jones were Ohio's ornithological Nestor.

✓ ✓ ✓

It was probably in 1827 that John James Audubon was befriended in Liverpool, when he had gone penniless to Europe to seek subscribers and engravers for 'The Birds of America,' by the Rathbone brothers, Richard and William. William Rathbone, sixth of that name, was then a member of Parliament, in the House of Commons, and his wealth, connections, taste and patronage meant much to Audubon.

One evening Mrs. Rathbone asked him if he could make her a miniature drawing of the 'Turkey Cock,' the now immortal and high-priced Plate I of 'The Birds of America.' Whereupon he took paper and pencil, and in twenty-three minutes he had a perfect replica of the drawing that it had taken him twenty-three hours to draw. So runs the story, for which I am indebted to Mrs. J. Oscar Clore (Julia Alves Clore) of Henderson, Kentucky. J. J. A. presented the copy to Mrs. Rathbone, and on his next visit she handed him a box containing a beautiful golden seal with a red carnelian on which was copied the majestic Turkey Cock, and which was engraved with Audubon's motto "America, My Country." For the Rathbones, Audubon named Rathbone's Warbler. This is Plate 65 of 'The Birds of America,' a superb picture of mysterious little golden birds swinging on a flowering spray of the wild trumpet creeper.

Some years ago Mrs. Clore got in touch with John Rathbone, direct descendant of Audubon's friend. He, too, proved to be an M. P., from Devon. Word came last March that Flight Lieutenant Rathbone, former M. P., had been killed in one of the R. A. F.'s daring actions over France, against France's enemy and conqueror. Now his young widow, Beatrice Rathbone of Boston, Massachusetts, sits in his seat in the House of Commons. Sometimes she talks on the transatlantic telephone to her children, who are refugees from the Luftwaffe in the home of Mrs. Paul Hammond of Syosset, New York.

And what became of Rathbone's Warbler, that you have never seen one? It turns out to be one of Audubon's early errors in identification, in a day when warblers gave the best of ornithologists the headache that they give the amateur today. It has been shown to be the young of the Yellow Warbler.

And what became of the seal of gold and carnelian, so charmingly engraved? It reposes in the Audubon Memorial Museum in Henderson, Kentucky.

\* \* \*

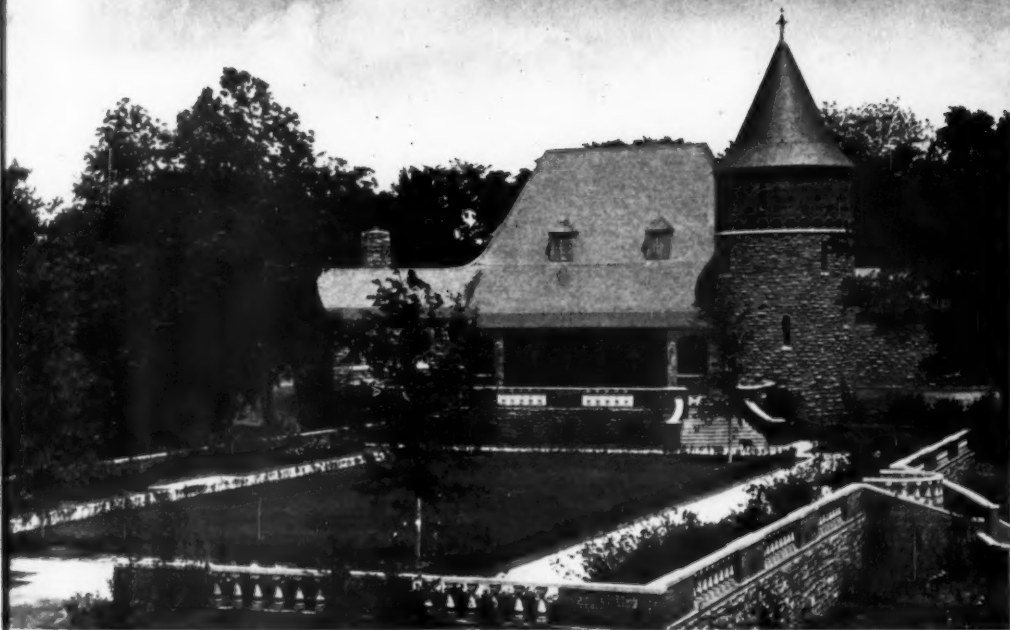
The Audubon Memorial Museum is so far as I know the only one of its kind in the world. I mean that no other museum of which I have heard bears the name of John James Audubon, or is devoted in such great part to the works, remains, and memorabilia of the greatest painter of birds. It stands in Audubon Memorial State Park, and is built in the French provincial style (in harmony with his French ancestry) out of native Henderson County stone. It houses five large galleries, three of which contain important Auduboniana, and one a bird collection. The remaining gallery is given up to Henderson County pioneer history, including much Daniel Boone material, and Audubon's

grandest portrait, to my mind, the picture of old Dan Boone himself.

Curator of the museum is Miss Virginia Lockett, assisted by Miss Nell Dishman. To Mrs. Susan S. Towles, organizer of the Henderson Audubon Society, goes due recognition for having been the mainspring in seeing that the museum became a reality. Together with Mrs. Clore, a life-long collector of Auduboniana, these women point to the museum as the prides of their hearts, and of Henderson, Kentucky.

It will be remembered of Henderson that the bitterest experiences and struggles and humiliations of Audubon's life came to him there. When Audubon settled in to it in 1810, Henderson consisted, he said, in "six or eight houses." It was here that Audubon went into business with his wife's eldest brother, Thomas Woodhouse Bakewell, only to fail disastrously in the ruin of the export trade by the war of 1812. Then Bakewell persuaded him to erect a steam grist mill that would also convert logs into lumber. It struggled on for some time, when the Kentucky banks began to crash. Audubon was cheated of thousands of dollars by a scoundrel named Bowen who assaulted him on the streets of Henderson, clubbing him until felled by Audubon with a knife. Then the Henderson bank closed; the mill closed; Audubon lost everything he possessed in the world—except his drawings, chalk, guns, dog, and drawing paper. He fled Henderson for Louisville, hunting work, leaving his tiny children in Henderson, and his Lucy, then pregnant with her fourth child.

Yet the Henderson years were some of the most creative in the life of the bird painter. According to Stanley Clisby Arthur's splendid biography of Audubon, the following plates in 'The Birds of America' were first sketched at Henderson:



**PRIDE OF HENDERSON, KENTUCKY.** *The Audubon Memorial Museum houses five large galleries mainly given over to the works, remains and memorabilia of our greatest painter of birds.*

Plate 60, the 'Carbonated Warbler' (a bird not since identified) first drawn in May, 1811.

Plate 61, the Great Horned Owl, one of the finest of Audubon's birds of prey, done September 21, 1814. (I assume you are following me in Vogt's Macmillan edition of 'The Birds'.)

Plate 114, the White-crowned Sparrow, a neat little study, with exquisite botanical detail for the habitat, painted October 14, 1814.

Plate 141, the Goshawk, a plate done with much care as to every pinion and spotting and detail, but rendered ab-

surd (presumably by his engravers) by placing one of the big birds in foreground-size on an island in the background, so that its tail hangs from half a mile away, into the close-up bottom of the picture! It is not conceivable that Audubon, the master of perspective, was guilty of such carelessness or nonsense.

And finally there is the Canada Goose, Plate 201, one of the most sought-out on the Audubon market, because of the demands among sportsmen-collectors.

This takes account only of Henderson



work which saw final form in 'The Birds of America,' closely similar to dated Henderson sketches. But, I think it might be shown that the actual field experience of a large share of 'The Birds of America' dates to the nine Henderson years, and a great part of the collecting and preliminary essays in sketching, too. The same would apply to the 'Ornithological Biography'; interior evidence in the biographies shows that in spite of the most relentless and unpleasant business anxieties, Audubon owed much to Henderson. Many of the incidents in his racy 'Episodes of Western Life' pertain to this period, and it was in Henderson that Audubon received the famous visit from Constantine Samuel Rafinesque, the mad genius of natural history. Rafinesque has, you'll remember, a single new species of bird to his credit—the Northern Cliff Swallow, *Petrochelidon a. albifrons* (Rafinesque). Audubon figures it in Plate 68, on its jug-shaped nests, though he called it the Republican Swallow—from its red, white and blue plumage, I suppose?

\* \* \*

The Cliff Swallow is one of the best beloved of western birds. Of course, it's an eastern bird too, but, in my experience, about a hundred times as common in California as in the East. It always reminds me of a European bird—say, the common Swallow, *Hirundo rustica*, which nests in chimneys as our swifts do (and theirs do not). I mean that it has a sweet, domestic charm about it; it has long been habituated to man and prefers to build where he builds, by preference under deep eaves and on old structures. The Cliff Swallow is the chief bird one sees around almost all the old California missions. For years the California papers have carried semiannual items on the arrival and departure of the

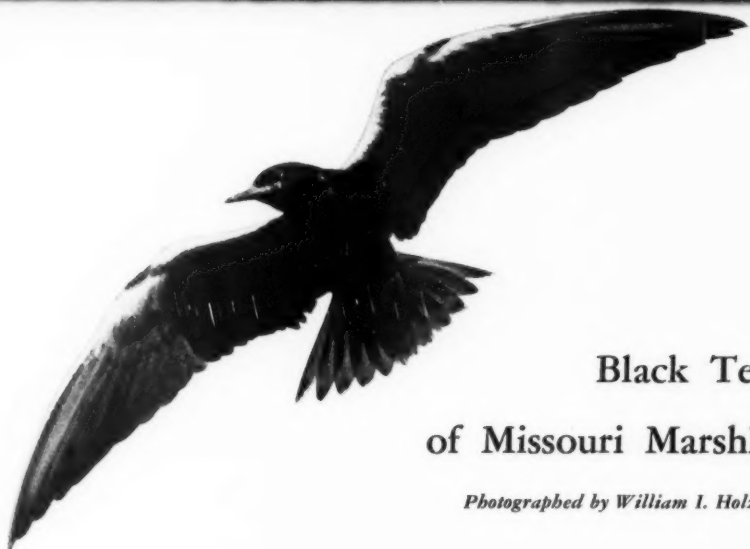
swallows of San Juan Capistrano mission. They come regularly, the story goes, on Saint Somebody's Day and depart as regularly on the Feast of Something Else. News photographers used to be stationed below the mission coigns to snap the arrivals in spring. In fall their departure was alleged to be "straight out to sea" where they disappeared for regions which we were told scientists have never discovered.

Recently newshawks have been letting up on the swallow story. For the Capistrano birds have not been so regular in their church attendance. If they didn't keep to the holy calendar they didn't make quite such good copy.

But they make charming neighbors—if you like birds nesting around your house—and any deep-eaved California cottage may boast at least a pair. Their mud nests, of course, are occupied again from year to year.

One would expect most western birds to be wildlings—vast Condors, raucous Ravens and Road-runners, noisy out-size Cactus Wrens. As a matter of fact it strikes me that the amount of domestic sociability among California birds is higher than among eastern species. Every garden's underbrush is full of bubbling Wren-Tits with their absurdly long tails, and flocks of many minute Bush-Tits. Every time I step out of my door there is a flirting away of a gentle Black Phoebe and half a dozen beautiful little Oregon Juncos with pink bills, black heads, brown backs and gray breasts—the neatest and most sociable of birds. The Cañon Wren comes down out of the mountains and, sitting on top of my chimney, sometimes pours a cascade of silvery rapture down the flue which acts like a megaphone, so that the bird fairly shouts into my study a song that I would rank as one of the five or six most beautiful I have heard on two continents.





## Black Terns of Missouri Marshlands

*Photographed by William I. Holzmark*

**P**RIOR to 1907, Black Terns were fairly common breeders in Missouri marshlands. From then until last year, however, there was no authentic record of this species nesting in the State, although it is still a quite regular migrant.

In early June 1940, the photographer discovered a nesting pair in a St. Charles County, Missouri, marsh, about twenty-five miles from St. Louis. An old rowboat proved to be a practical base for the photographic blind, which had to be placed in about three feet of water. After anchoring it within six feet of the nest, several lengths of green burlap were draped over man and equipment for camouflage. This arrangement proved so successful that it was used to complete the series.





THE NEST WAS A FLIMSY STRUCTURE composed of reeds, twigs and grass, and built on an abandoned muskrat house.

ONE OF THE PARENTS ALIGHTED ON THE NEST soon after the blind was set up and continued the interrupted incubation.

AFTER SEVENTEEN DAYS, ONE OF THE EGGS HATCHED. During the incubation period, one of the original three eggs had disappeared.







**LONG, GRACEFUL WINGS** make the inland-breeding Black Tern a powerful flier.

**AFTER A SWIM** in the surrounding water, one of the youngsters posed on a lotus pad.



## June Comes to Hog Island

By Dorothy A. Treat

Photo by Allan D. Cruickshank

THE ship's clock over the mantle sounds three bells and the fireplace supper is on in the new camp building! There was to have been the usual Sunday night picnic on the rocks overlooking Muscongus Bay, but a bank of fog has swept in, wet and chill. Outside, everything is soaked and dripping and an impenetrable gray curtain is drawn around the island.

The camp building, smelling of spicy fresh pine lumber, feels warm and friendly. The drop-leaf reading tables along the sides are down for the evening and the library books are back on their racks. Great logs are blazing on the big hearth at the end of the room and heat pours from registers in the side walls of the chimney. The fireplace is a truly magnificent affair, massive with high mantle and towering chimney all made of native rocks: gneisses, schists, chunks of quartz, granites—some so fresh from the sea that barnacles still cling to them. To one side, a line of campers is forming around two tables

loaded with a tempting array of hot soup, salad, steaming coffee and sizzling frankfurters peering out of fresh buns.

After generous rounds of seconds and even thirds, the feast ends and the group closes in around the fire for a sing. Perhaps it is Allan Cruickshank's good-natured fun, or a French Canadian camper with a special gift for leading 'Alouette,' or else the fireplace has cast a magic spell, for there has never been such singing at Audubon Camp before.

This new building, nestled among the spruces at the end of the peninsula, has been a continuous center of interest from the moment the first boat load of arriving campers spotted it. Old campers rubbed their eyes and wondered if this was really the same place they had camped in before. The camp building just completed was built from a fund started by campers last summer and contributed to during the winter by interested camp alumni and friends. It is a building of long proportions constructed in Maine fish-house

style, with shingled sides and many windows. With its bright new shingles and soft green roof topped by a gray stone chimney, the little house presents a pleasant picture from every view.

Fog, however, is far from the usual thing at camp. It is June on Hog Island, and opening day for the sixth season at the Audubon Nature Camp, located on an island in Muscongus Bay, Maine, some sixty miles north of Portland. Most of the staff are on the grass in front of the office looking out across the bay—blue and sparkling in the sunlight—watching for the boats to round Oar Island with the season's first campers.

Behind is the fragrant spruce forest—full of young things: nestling birds, small squirrels, baby snowshoe rabbits, spotted fauns, new hay-scented ferns just uncurling, fresh pale green needles on the branch tips. Those of the staff who came early to help open camp have already spotted many nests. There is a Black-capped Chickadee's and a Parula's down by the inlet and a Song Sparrow's in the tiny spruce by the garden. Tree Swallows are in the bird houses again. A Kingfisher rattles as he shuttles back and forth across the cove. There must be a nest in the bank. Juncos trill behind the dormitory; it is time for a second brood. The Olive-backs have returned to the balsam fir. Redstarts and Purple Finches, Magnolias, Myrtles and Parulas all join in the early morning chorus. No need for reveille in June.

At the moment, Joe Cadbury and Allan Cruickshank, the two bird instructors, are carefully scanning the 'moss-coated' spruce limbs in front of the office once more. Surely one of those patches of hoary gray old man's beard must hold a mother Parula and her eggs, but which? Miss Hubbard is recording a first reading of the home-made instruments comprising the Hog

Island Weather Bureau, prize project of her nature-activities class. Insect-instructor Donald Borrer is in his 'lab,' busy with some of his six-legged friends. Down on the float and hanging over its edge is Frank Trevor, lost in admiration of this year's crop of sea anemones. Big brown ones, white ones, pink ones, striped ones, coat the sides of the landing. Scattered among them are great clusters of mussels threaded together and fringed with sprays of large hydroid colonies. Underneath, the rocks are literally paved with huge starfish. What a summer for marine life!

Plant-instructor Josiah Lowe and camp-director Carl Buchheister, better known as 'Mr. B,' have gone to meet the campers.

As the campers arrive—two boatloads of waving arms—the old campers have their attention focused on the tall spruces at the end of the peninsula where the new camp-building roof and stone chimney peer through. These returning campers helped make the building possible and it is ready and waiting for their use. Once landed, they are eager to explore and find their living-quarters. The staff, who have now distributed themselves about the grounds, serve as guides.

At two minutes of three on that first afternoon, campers, already attune to the 'on time' schedule at Audubon Camp, sit expectantly in the two power boats. The inevitable raincoats are in hand, as there might be spray. At exactly 3 P.M. they are off to survey Muscongus Bay, meet the Double-crested Cormorants, the old Herring Gulls, first- and second-year Herring Gulls, terns, Laughing Gulls, Great Black-backed Gulls, Harbor Seals, the Ospreys that nest farther down the island, loons, scoters, 'G. B.' Herons, and perhaps porpoises and Ravens.

Later during their stay, the campers will return in smaller groups to land





*The Audubon  
Nature Camp's  
New Building.*

Photos by  
Allan D. Cruickshank





## CAMP

VIT

*The plant class explores a meadow habitat near the shore, where they find native and naturalized plants preparing ground for a tree invasion.*

*Campers learn that insects bear a vital relationship to plants. "Now this fellow, right here," explains Dr. Borror, "is very common and extremely important."*



*An introduction by members of the nature trail is a natural group.*

IP

## VITIES



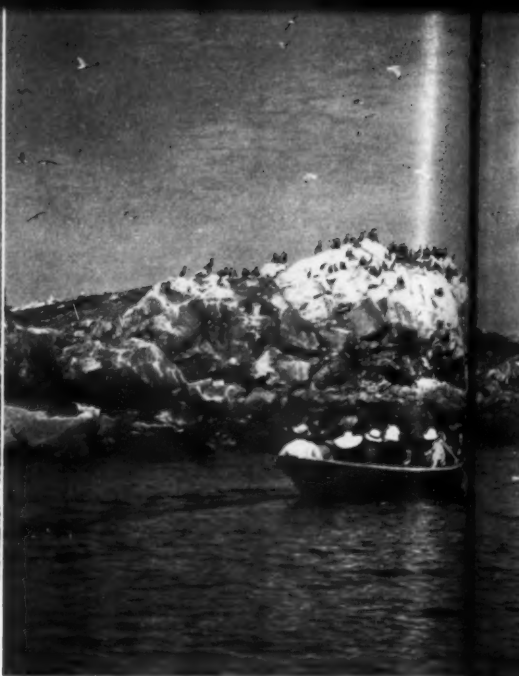
*Short sharp whistles of an Osprey above Hog Island inlet bring the bird class to attention. Is that a fish held in its claws?*

*"Look at this one!" Marine-life students discover that a shovel-ful of ocean mud and sand is literally alive with fascinating animals.*

*Photos by Allan D. Cruickshank*

duction by means of a  
rail is a members of the  
nature group.





*Campers land on Old Hump Ledge, home of the Double-crested Cormorants. Snapping close-up views of the nesting colonies.*

on some of the bay islands where they can get closeup views and fine photographs of the nesting colonies.

The camp log tells of a trip to a colony of Double-crested Cormorants on Old Hump Ledge—"the most picturesque in form and name of all the oceanic rocks in Maine. On the craggy sides and summit of Old Hump, every flat area is the site of nests of these 'Shags' . . . 367 nests in this colony."

Further on, the log describes a visit to a rookery of Great Blue Herons on Otter Island. "The group slowly and quietly made its way from the landing, pausing frequently to observe the profuse growth of mosses and lichens and to listen to the songs of the wood warblers and the Olive-backed Thrush. Before long a strange sound was audible—a tick, ticking which became louder and louder with every step. Young herons, hundreds of them, were in their nests in the rookery. Excitement accelerated the pace for-

ward. Aware of the intrusion, adult herons soon burst forth in a chorus of unearthly sounds. It was as though the demons of Hell had broken loose—barks, grunts, growls, hissing, coughing, choking, screams and wails. . . . Over 250 nests were found in the spruce-tops deep in the middle of the forest."

Over 200 species of birds have now been seen in the vicinity of the Audubon Nature Camp. From 50 to 60 may be seen and heard on a single trip to the near-by mainland. Both species of Crossbill, the Red and the White-winged, are providing much interest this summer—and two Saw-whet Owls, heard nightly and seen as well by campers equipped with flashlights.

As the boats return from their trip down the bay, Mr. Cruickshank stands upside-down on the deck of the lead boat's cabin—the inevitable signal of a new discovery. We run to the float and learn of a new rookery of Great Blue and Black-crowned Night Herons



home-le-crested Cormorant families this season.  
of the exciting way 'to take it with you.'



Photos by Allan D. Crutchank

on Wreck Island, explored for the first time!

The camp program consists entirely of field classes which permit the students to observe, in small guided groups, living plants and animals in a variety of natural habitats. The camp itself is in an evergreen forest comprising the Todd Wildlife Sanctuary. Hardwood forests are close-by on the mainland. Open meadows, farms, freshwater ponds and marshes, sandy and rocky shores, barren and treeless outlying islands combine to provide a fascinating outdoor laboratory. Campers learn at first hand the many interrelated factors—soil, water, light, weather, as well as the mutual dependence of plants and animals upon each other—which affect the type of life found in each habitat. Such information builds intelligent appreciation of the out-of-doors and provides a sound basis for its conservation. It generates a contagious kind of en-

thusiasm, too. Seeing a starfish move or holding one and watching the dozens of waving tube feet, or having a young bird fed from your hand are dynamic experiences not to be compared with reading about such matters from books.

The camp log provides numerous interesting details. Students are rearing gall insects, brown-tail and tent caterpillar moths, and observing the relationship of parasites to insects as checks and controls. This activity is stressed as a practical one for camps and schools. Plant field trips include a study of lichens, mosses, ferns, wild flowers, shrubs and trees, with special reference to the role each group plays as soil builders in the succession from bare rock to climax forest. Members of the marine-life group are learning to care for living fresh- and salt-water animals in small aquaria. Some are arranging them in habitat groups and then photographing them by means of special lighting. With the nature-



Photos by Allan D. Cruickshank

*A picnic on Little Green Island (above) where campers see nesting Leach's Petrels; and a rock-table luncheon on Eastern Egg Rock (right) where hundreds of gulls are breeding.*



activities class, electric games, the kind that use a flashlight bulb and run on a doorbell battery, are much in vogue as a workshop activity.

On many evenings a large group gathers in the camp museum, which has become a workshop where campers construct home-made weather instruments, electric games, learn to balance aquaria, make terraria, charts and simple exhibits to use as keys in identifying plants and animals.

In addition to the information and enthusiasm gained through direct contact with living plants and animals, campers receive many interesting suggestions for presenting nature study in schools, clubs and camps. The fifty-three campers of this first session will carry practical teaching programs to thirteen states and one Canadian province.

The Audubon Nature Camp has had a new experience this season—that of

being booked beyond capacity for the entire summer by opening day of the first session. Every one of the five two-week camping periods is filled and has a growing waiting list. Of the more than three hundred persons who have sought opportunity to attend this unusual outdoor laboratory this summer, we have been able to accept, by squeezing in every person possible, a maximum of 264.

Since the camp started in 1936, it will, at the end of this season, have been attended by 1210 different individuals who have spent 1410 two-week sessions at the camp. They represent thirty-seven states and four Canadian provinces. To date, seven hundred and fifty-three of these campers are teachers and youth leaders with direct contact with hundreds of children. The influence of the camp in teaching nature-study appreciation is indeed far-reaching.





Photo by Edward A. Hill

## Winged Iridescence

By Edward A. Hill

A SCARLET pendulum swung a wide arc across the June morning. Up . . . sixty feet into the blue; down . . . swishing the tops of meadow grass by the fence.

It was the Ruby-throated Hummingbird courting a mate. From the lowest branch of the elm she watched intently. His gorget glowed like an ember on the up-stroke, burst into sunlit flame at the peak, and dropped like a brand of desire that defied the shade of the elm. He clocked the moments of high June as if to warn her that time was wasting.

Backing into the sun he was lost even to her eyes. Plummeting into visibility again, he stopped exactly before her, resting a moment upon indiscernible wings. Neither moved, though one was perched and the other suspended in midair. As though hung by a thread from the morning moon, he swayed gently right and left, up and down, till again the pendulum of passion swung above the meadow and the moments moved toward noon.

Suddenly both were in the air. Two bodies following a single orbit, twisting, turning, keeping a foot apart like satellites of the sun. It was not flight, this precipitous streaking of green-bronze and flame in the sky. Human eyes could not follow, and the denouement in cool woods beyond the meadow was never seen.

Nor was there anyone around when the female transported strands of dew-hung spider web to the lowest limb of the elm. The beginning of the nest was as fairy-like as that. One must imagine this tiny bobbin of a bird, winding and trailing the touchless silver threads, binding them to the bough, lace of gossamer.

Imagination must follow her in search of felted fern to form the cup that was to be her nest. Shifting and fitting, she worked alone, a tailor with a needle for a bill. Each layer was decorated with bits of lichen from the trunks of trees, glued and bound with gossamer until, finished, it appeared like an inch-high jardinière, set with



Photo by Edward A. Hill

**ALWAYS SHE RETURNED ALONE.** *The two young Ruby-throated Hummingbirds expectantly lifted their beaks above the moss-covered nest whenever she approached.*

a pattern of colored stones.

At a distance it seemed like a knot on the limb and was unnoticed as she sat upon two white eggs, so tiny they were lost in her feathers, deep in the cup three-quarters of an inch across. Every five minutes she left the nest, every three minutes returning. Sometimes silently, sometimes humming, speeding to a tryst in a flower-scented field.

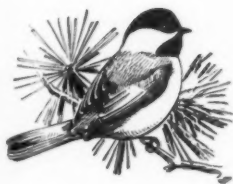
Always though, she returned alone, fearing perhaps that her mate's ruby throat might betray the camouflaged nest. Rarely, after the eggs had hatched, did he venture a look at his offspring, two tiny throbs of life with pointed beaks. These little beaks were lifted above the moss-covered chalice whenever the mother approached, which was every twenty minutes. Like little sword swallows they accepted her long bill, thrust deep down into them to discharge the nectar of life.

As her mate had clocked the gay moments of June, so the warm July days were timed by the mother's feeding flights. To the meadow, the wood,

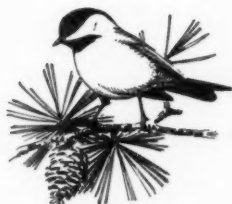
to the farm, rifling blossoms with her brush-tipped tongue. The columbine, the cardinal flower, the trumpet vine, all knew her, this flying flower that shimmered in the sun . . . this buzzing blossom of iridescent green. Unstemmed, free of the earth, she flew with purple petals through the long summer days, fledged her young and joined her mate for the final romplings of fall.

Mornings found them bathing in the dew-drenched grasses, spattering tiny droplets into spray. Together they spun across the meadow, dodging the ironweed and circling the thistle. Speed was their life, their love, their *raison d'être*. Haunts were reduced to banks of jewel-weed, still gold in bright September. These withering, they invaded a dooryard, brilliant with scarlet sage. It was their last stand.

Something stronger than their whirling wings took them aloft, something beyond time or space set their course . . . southward. Once more they had become satellites of the sun . . . specks in the sky.



## *The Director Reports to You*



**B**LOWOUTS are the nightmare of the oil driller and constitute a dire threat to all animal and plant life in near-by areas. Tides, winds and currents may all play strategic parts in the extent of damage from oil pollution, which may carry death and destruction extraordinarily long distances, especially in shallow coastal bays and lagoons. In spite of the most careful preparations and the application of the most expert engineering knowledge and State regulation, blowouts continue to occur.

### *What Price Black Gold?*

The Houston Post, of June 18, 1941, carries the following news item:

The R-2, State of Texas, a Gulf Oil Corporation well that blew out in Galveston Bay, continued Tuesday to blow sand, mud, rock and salt water more than 300 feet in the air.

The well blew out Monday and crumpled the derrick into a twisted mass of steel. Crews are standing by to bring the well under control if there is an opportunity, but officials of the company hope the well will sand itself up.

They said they did not know what caused the blowout. It might have been caused, they said, by gas seeping into a strata of water from a leaky casing in another well near-by.

The well is located about four miles off San Leon and south of Seabrook. It is near production on Red Fish reef.

Company officials said the drilling crew had been reaming and were removing the stem from the hole when the blowout occurred. None of the crew was hurt and all succeeded in getting away before the full force of the blowout could be felt.

Workers on a Humble rig, about a mile away, started to the rescue of the crew but were turned back within half a mile of the well by a shower of mud and rock.

Oil company officials said 11 lengths of drill stem were still in the hole when the blowout came. The well is throwing a great amount of sand, and Gulf officials hope there is sufficient sand to plug the blowout.

The officials said there was no indication that the wild well is polluting the bay. It blew in from a depth of 4970 feet and is making nothing but gas, sand and salt water.

The oil in that area, one official pointed out, comes from the 8000-foot horizon, and oil from the wild well is not expected.

### *Channel Not Menaced*

The well is located about two miles from the Houston Ship Channel, but at this distance offers little threat to traffic on the channel, J. Russell Wait, port director, said.

Mr. Wait said his insistence at a hearing in Austin a year ago that wells be drilled not less than 2500 feet from the Ship Channel has been justified.

Company production men watching the well said conditions around the well minimized the danger of fire. The fire threat was diminished by the collapse of the derrick.

At the fishing docks along the shores of Galveston Bay the fear that the oyster beds would be destroyed and fish driven from the bay was expressed by many. "If the well continues to run wild and throw muck in the air very long this will settle on the oyster beds and smother the oysters," one fishing-camp operator said.

Mr. Wait spent a part of Tuesday afternoon making an inspection of the wild well and vicinity.



Photo by Press Association, Inc.

**WILD WELL.** Located about ten miles south of the Vingt' un Islands sanctuary in Texas, this Galveston Bay well blew sand, mud, rock and salt water 300 feet in the air. The derrick was wrecked shortly after the blowout occurred.

## THE DIRECTOR REPORTS TO YOU

"Unless the well catches fire there is little danger to the channel," he said.

A representative of the railroad commission said the bay will not be polluted unless the well begins making oil.

The well was being drilled on a contract for the Gulf Oil Corporation by the Parker Drilling Company.

The well is approximately 10 miles south of the Vingt' un Islands, State wildlife refuge guarded by National Audubon Society warden.

Still another blowout recently occurred in the Laguna Madre of Texas, near Flour Bluff; it, too, was a 'gasser,' but brought oil to the surface in small quantities; this is dangerously close to your Society's North and South Bird Island sanctuaries; as of June 21st this blowout was still burning fiercely over a huge cratered area, not having been tapped off by directional drilling.

### *Bring Pollution Home*

**I**N June, Bob Allen, indefatigable student of 'Pinks,' was on the spot on the mid-Texas coast. His letter of June 21st is vivid and explicit:

On Thursday morning, June 19th, I learned through Stevenson (U. S. Fish and Wildlife Service) that an oil slick had been reported the previous afternoon on San Antonio Bay, near the well being drilled five miles east of Dagger Point (Aransas Wildlife Refuge). The first report described a slick five or six miles in length and extending from the oil rig toward False Liveoak Point.

In one of Hopper's boats we went first to the oil rig. Near our Shell Island Sanctuary we ran into the slick, now some 2 to 3 miles in length by 75 yards in width, and extending from the oil rig in a curved line north and west toward the Blackjack Peninsula. Apparently much of it had already gone ashore, presumably on the refuge property. The surface film was thin and varicolored, with many large areas of heavy crude oil floating in irregular masses.

At the rig we found that the boss (Mr.

Silvey, representative of the Gulfboard Oil Company of Houston) was ashore in Sea-drift after pipe casing. The men on duty could tell us very little except that some tanks that had been pumped full of freshish water (the water is used in making a lubricating mud required in drilling) from the bay had evidently contained a quantity of crude oil and this had inadvertently been pumped overboard. These tanks, two of them, are on a barge that appeared half sunk, and around the entire barge there was a residue of crude oil, with large puddles or masses of it floating alongside.

We went back to Austwell and Stevenson phoned Mr. Arnold, of the Coastal Division, of the Game, Fish and Oyster Commission.

First thing next morning (June 20th) I went with Stevenson to False Liveoak Point. It was raining hard and a half gale was blowing. We left the pick-up some distance from the Point and waded through knee-deep mud to the shore of the new Intercoastal Canal. There we found some Mexican boatmen (employed by Hopper to haul shell for the Mustang Lake levee job) and they carried us to the shore of the Point.

For a considerable distance in both directions the beach showed excessive pollution. The tide was out and an area of exposed beach thirty feet in width was covered with a thick scum of crude oil. We obtained samples of the oil before moving on.

We moved next to the Second Chain-of-Islands. The strong southeast winds had apparently prevented a flow of oil in that direction, although a strong tide must have moved the slick some six miles across the wind to False Liveoak Point. We found no pollution on the Second Chain group, a most fortunate circumstance as young Roseate Spoonbills, Reddish Egrets, Louisiana Herons, and other birds are at present feeding in large numbers along the shorelines of the group, many of them as yet unable to fly with any degree of skill.

Whether or not the slick still present on the surface of the bay will reach Second Chain is uncertain. I expect to keep in touch with the situation.

That afternoon Stevenson and I met with the State Anti-Pollution Director from

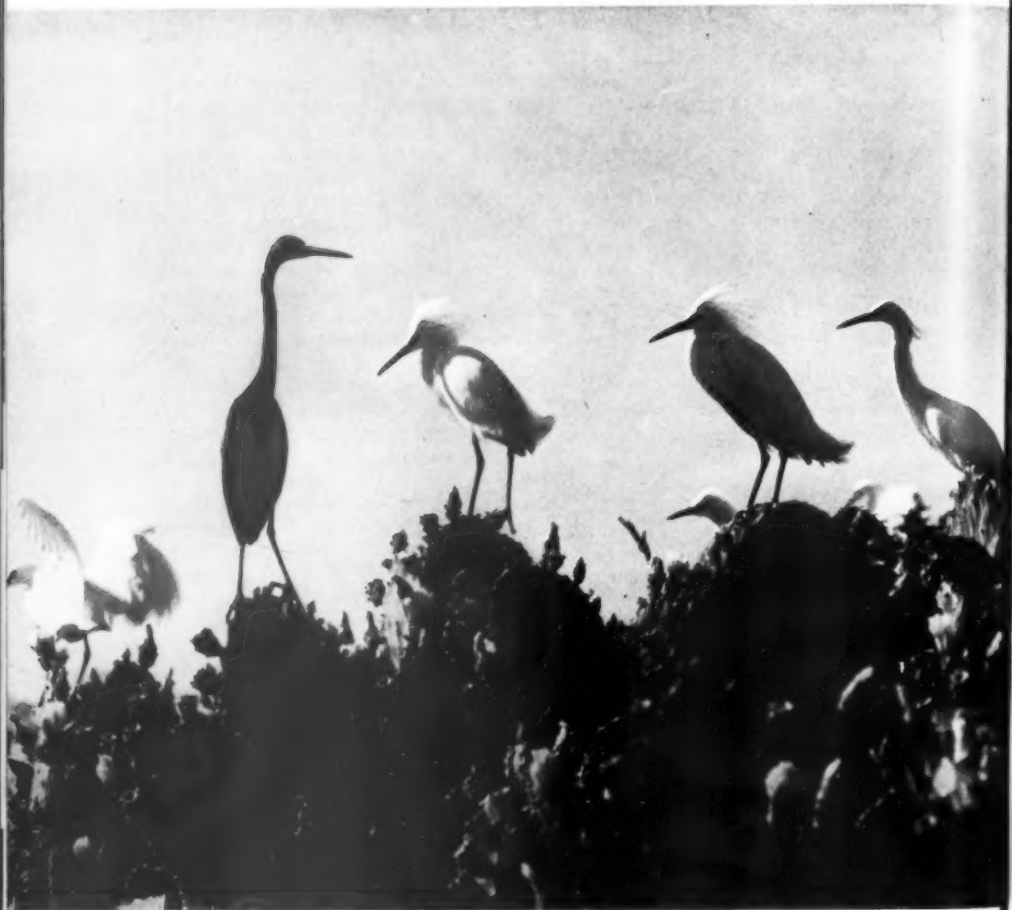


Photo by Allan D. Cruickshank

**OIL POLLUTION CONSTITUTED A DIRE THREAT.** *Crude oil floating on the surface of San Antonio Bay endangered the lives of many of our sanctuary birds.*

Austin, Mr. Faubian, and Bruce Preckwinkle, State Warden for the Coastal Division. We made a second trip to the oil rig and Mr. Faubian at once inspected the entire plant in company with Mr. Silvey, representing the oil company.

Mr. Faubian found the barge on which the overflowed tanks are located in bad condition. Opening the bilge hatches, he found a considerable amount of oil residue and gave orders at once that the bilges be cleaned.

He also gave instructions regarding the level of water in the two tanks, and ordered all masses of oil on the water surface close to the rig cleaned up immediately.

He also served Mr. Silvey with a formal notice of pollution in violation of the criminal law of the State of Texas. He likewise instructed Warden Preckwinkle to make frequent trips by boat from Rockport to the rig and if there is any further evidence of violation, Mr. Silvey (for the oil company) and the 'tool pusher' (foreman)



## THE DIRECTOR REPORTS TO YOU

of the drilling gang, are to be fined for each separate offense.

Mr. Faubian suggested that a series of fines for each day of violation might be expensive enough to result in some care with regard to future pollution.

In addition, Stevenson is reporting the case in full to the U. S. Engineers office in Galveston (which office issued drilling permit with provision that care shall be taken to avoid and prevent pollution). The Engineers have authority to revoke the permit.

The well was started May 15th and is now down 7500 feet. It is expected to go down to 11,000 feet.

The Gulfboard Oil Company has offices in the Esperson Building in Houston. It is a sister company of the Salt Dome Oil Company, but the two concerns have separate Boards. A Mr. Hasselmann is president of both outfits.

We are indebted to Jim Stevenson, Mr. Arnold, Mr. Faubian and Bob Hopper for prompt action and full coöperation in this situation.

The extent of damage already done is not yet possible to estimate. I am hoping Gunter may be able to do some checking, and Stevenson may ask for a plant biologist to study the results on plant life (widgeon grass, etc.). Just how much additional damage will be done we do not know.

The San Antonio Bay well (State # One-114, Panther Reef) would be a major catastrophe if it should strike oil and blow out. Aside from the usual safety valves, there would be no way under heaven of preventing serious and widespread pollution. In such a location any sort of adequate enclosure is evidently impossible. The blowout might initially cover an area as large in radius as two miles or more.

Production of this well will not be simple insofar as prevention of pollution is concerned. The distance to shore is too great for a pipe line, and if storage tanks and barges are used, there will be frequent danger of pollution.

### *The Follow Through*

**O**N June 25th, Bob Allen, right on the job, reported as follows:

Here are the latest developments in the San Antonio Bay oil pollution case, as follows:

On Monday (June 23) State Warden Bruce Preckwinkle of the Coastal Division visited the Panther Reef rig and found that no effort had been made to clean up the existing sources of pollution and the oil residue on the water around the rig, barges, etc. Consequently, in accordance with the warning already given, he filed charges against W. F. Silvey, representing the Gulfboard Oil Company on the job. He also obtained samples of polluted water.

On Tuesday the rig was visited by B. V. O'Brien, Navigation Section, U. S. Engineers office (Galveston). O'Brien also contacted Stevenson of the U. S. Fish and Wildlife Service (Aransas Wildlife Refuge) and together they surveyed the polluted beach area at False Liveoak Point. O'Brien will report to Col. Hewitt, District Engineer in Galveston. If Hewitt approves this report the Federal case will be turned over to the U. S. Attorney for prosecution.

I believe the Federal Act calls for a maximum penalty of \$2500 for every day of violation. The State penalty is less—\$1000 per day of violation, I think, though I am not certain as to this figure.

### *The Latest News*

**A**ND as of June 28th, Allen, our Lone Star Sherlock Holmes, dispatched from the front this up-to-the-minute report, hot off the griddle:

I drove to Houston early this morning (en route to the Rainey) and met Jim Stevenson at the Nellie Esperson Building. Together we called on Mr. Hasselmann, President of the Gulfboard Oil Company.

In a friendly and disarming way Hasselmann said at once that the pollution emanating from State One-114 was a stupid blunder, an act of inexcusable carelessness on the part "of that boy down there" (meaning Silvey). He himself visited the rig during the week and saw to it that cleaning operations got under way. He described his company's activities as follows:

(1) The offending barge was thoroughly cleaned, top taken off and pumps put to work removing all sludge (crude) oil. He

said they found 400 barrels of oil in the barge.

(2) All surface film and sludge around the well was removed.

(3) Crews are now "removing or covering up" oil residue on Shell Island (Bird Island) two miles north of the rig, and on the refuge property at False Liveoak Point.

We asked him about the means of preventing a disastrous blowout at a well in such a location. He said there are a series of three preventer valves to guard against this. These are presumably tested for 10,000 lbs. pressure each. He claims that mechanically a blowout is "impossible" and if one does occur it is caused by a "human failure."

If this well reaches the production stage at 11,000 feet, it will be a flowing well. In answer to our questions he said that it is uncertain how production will be handled. Regulations permit a temporary pipe line on the bottom of the bay, but this must eventually lie buried two feet under the bottom if permanent. Chances are the oil will be fed directly into barges. [This might mean occasional pollution of a greater or lesser extent—my comment.]

Hasselmann now considers meeting U. S. Engineers Department regulations with regard to the near-by waterway by erecting a screen 2500 feet long, carried between buoys. This would lie between the rig and the waterway, would theoretically stop "live oil" (inflammable oil) from reaching the waterway until it had gone into solution to such an extent as to be "dead" or no longer a fire hazard. This, in the event of blowout or other loss of oil overboard.

Obviously, this measure may reduce the fire hazard in a navigable channel, but it would have no effect in reducing the chances of pollution.

Hasselmann says they fear hurricanes and we asked what they plan to do in such an emergency. He said they would take all portable equipment to Seadrift and let it go ashore with the storm. The rig would have to take its chances.

Faubian, the Anti-Pollution Director, has held up the State warrant pending further violation. He made this decision following assurances by the Gulfboard that "the oil" already released would be cleaned up and greater care taken.

However, Brian Odem, Assistant U. S. Attorney, told Stevenson that B. V. O'Brien of the Engineers office has filed his report with the U. S. Attorney. It is now up to the Engineers to get data and witnesses lined up and submitted. Then, if the U. S. Attorney (MacGregor in Houston) believes that the case can be prosecuted successfully on the evidence, he will proceed with the prosecution.

### *Oil in the Home Office Machinery*

THE Department of Interior in Washington has certain powers with regard to production of oil as an inorganic natural resource. The Federal government has certain powers in connection with the present defense and preparedness program. Why not a cessation 'for the duration' of oil exploration, drilling and production on submerged lands on the Texas coast? What is the sense of such endeavors at a time when production is pro-rated and many producing wells capped? Isn't it time to compute the long-term costs of destruction of other natural resources as against the short-term value of possible oil production? These are questions your Executive Director has put to Mr. Ickes as Secretary of the Interior.

### *Feathers Aboy!*

LET'S remember that the new New York State plumage law sets April 15, 1947 as the date after which there may be no New York traffic in wild-bird plumage of any kind from any source; from then on, legal feather traffic will be limited to plumage of ten specified kinds of domestic fowl.

Between now and April 15, 1947, great efforts will undoubtedly be made by New York importers, dealers and manufacturers of wild-bird plumage to dispose of inventories in their possession as of April 18, 1941. So don't be bowled over if you see quite a lot of feathers on millinery this fall and winter. Their sale will represent short

## THE DIRECTOR REPORTS TO YOU

term liquidation of limited inventories of plumage of birds long since dead.

### *New Plumage Law Reviewed*

PERHAPS it will be just as well to review certain other principal features of the new law. It is now illegal to import any wild-bird plumage into the State of New York; that means no additions to the aggregate inventories as of April 18 last. Every possessor of such plumage in New York had opportunity, up to May 15 last, to file with the New York State Conservation Department an inventory, with samples, together with a sworn statement and a waiver of constitutional rights in that inventory. By so doing, he obtained the right to dispose of that inventory in New York between April 18, 1941 and April 15, 1947, as of which date any remaining inventory is to be delivered to the New York State Conservation Department for destruction.

### *Importance of Waivers*

THOSE who may possess merchandise prior to the date of restrictive legislation are legally considered to retain the right, forever, to dispose of that inventory. Importers and dealers in wild-bird plumage claimed still to possess quite a lot of feathers acquired prior to passage of New York State legislation in 1910 and Federal legislation in 1913; they were able in many cases to produce invoices to substantiate their claims. As, generally speaking, feathers do not age, it was difficult, if not impossible, to distinguish between feathers so acquired and others that might have been illegally acquired subsequent to the dates given.

To get rid permanently of this underlying complication, the waiver plan was developed; it is designed to make effective the complete ban on all traffic in wild-bird plumage in New York State after April 15, 1947.

### *How About Other States?*

JOINT declaration of policy and program commits Feather Industries of America, Inc., and your Society to efforts to gain adoption of model law, as enacted in New York, by the other 47 States and the District of Columbia. Only a few State legislatures meet in 1942, so that the main effort to get uniform State legislation must come in 1943. Until such time as other States adopt the new New York State law, the existing laws in those States will naturally apply. Your aid in seeking uniform law in your State, when the right time comes, will be invaluable.

### *How About the Federal Tariff Act?*

JOINT commitment also involves effort to amend the Federal Tariff Act to eliminate the existing proviso permitting importation of wild-bird plumage for use in manufacturing tied fish flies or in manufactured fish flies. This proviso was, in fact, quietly slipped into the Tariff Act in 1922, and proved to be a sizeable loophole for evasion and diversion of plumage to millinery use. The new New York State law does not discriminate against the millinery business but applies the ban on traffic in wild-bird plumage to all commercial traffic. Opposition to this amendment is being voiced by some sport fishermen and some of those who cater to them, especially 'amateur' fish-fly tiers. Your Society has in preparation now a special pamphlet on 'Wild-Bird Feathers and Fly Fishing,' which, it is anticipated, will be widely distributed this fall. When bill amending the Tariff Act has been introduced, we shall probably communicate with all members, urging their sending word of their views to their own senators and congressmen in Washington. The assertion of some fishing interests that the joint program of Feather Industries of America, Inc., and your Society dooms

fly fishing in America is poppycock. We are over the hump in the feather campaign, but the mopping-up process will take some time. We urge all members to be on the alert and keep your Executive Director informed as to conditions in their own communities.

*No Open Season on Wood Duck!*

AS all members and AUDUBON MAGAZINE subscribers were sent in July appeal circular requesting them to communicate at once with Secretary Ickes and Dr. Gabrielson and setting forth the case for continued complete protection for the Wood Duck, repetition will be avoided here. The 1941 waterfowl hunting regulations will probably have been published prior to your receipt of this copy of the magazine.

Illustrative of opposition comment, we quote rod-and-gun-columnist Ray Trullinger of the *New York World Telegram*:

*Windmill Tilting Dept.*

Our friends, the Audubons, seem all in a dither over our native Wood Duck, that gaudy swamp habitant which long has been on the protected list.

"Pressure has increased through the past two years," the Audubons report, "coming especially from the southeastern and western States, to open the season on Wood Duck."

Now it just happens your reporter knows a lot of active duck hunters, and never, in the last 10 years, has he ever heard one of them suggest taking the Wood Duck off the protected list.

This save-the-Wood-Duck drive, coming at this time, smacks strongly of a smear campaign to give wildfowlers a black eye with the non-shooting public. No one, to this reporter's knowledge, wants the Wood Duck removed from the list of protected birds, least of all duck hunters.

And a few days later:

In a recent essay your reporter called attention to the Audubon Society's save-the-Wood-Duck campaign, hinting delicately that our four-starred bird protectionists

were tilting at windmills. Attention was directed to the fact that duck hunters aren't interested in shooting Wood Ducks; that no sportsman of this writer's acquaintance—and he knows a few—ever has suggested taking the Wood Duck from the protected list.

However, it develops this oracle doesn't know what he's talking about—according to Alan Palmer, a Brooklyn reader. Mr. Palmer corrects us as follows:

"May I comment that your windmill tilting department is aptly named and you Don Quixote Rey, have missed by a proverbial mile.

"The whole Wood Duck mess," continues Palmer, "is tied up in the Audubon Society's bill which prohibits trafficking in wildfowl plumage. This bill, aimed at milliners and fly tiers, may well be a boomerang as far as the Wood Duck is concerned. As an amateur naturalist and semipro fly tier, I know whereof I speak. Here's the low down:

"Nobody would shoot a Wood Duck for the eating. He is too scarce and too small. However, Mr. Wood Duck has on his being a collection of feathers which are the basis of many of our most effective trout flies. These feathers are very difficult to duplicate by dyeing the feathers of more common ducks but they are very closely approximated by the plumage of the Chinese Mandarin Duck, the skins of which are imported in large quantities from the Orient to provide the makings for Cahills, Hendricksons, Quill Gordons and similar flies.

"The stifling of a legitimate trade in feathers will cut off the supply of mandarins, thereby creating a demand for bootlegged Wood Duck plumage.

"The fisherman may be a dry-fly purist, a fine sportsman and all that, but such legislation as this will only cause him to close his eyes regarding the source of the makings of his flies. He will gladly pay a little more for the real McCoy and some other guy out of sight and mind will do the shooting of Mr. Wood Duck. That's the story."

Mr. Palmer's letter is interesting, but it doesn't disclose how your reporter "missed by the proverbial mile" in his recent story.

To begin with, our argument was that a



Photo by Allan D. Cruickshank

**TO SHOOT OR NOT TO SHOOT?** *With pressure being exerted for an open season, the National Audubon Society has strongly urged continued complete protection for the Wood Duck.*

save-the-Wood-Duck drive, coming just before the announcement of the 1941 wild-fowl gunning regulations, quite likely is designed to create the impression that most duck hunters want an open season on those gaudy birds, which, of course, is not true. In other words, if the non-shooting public can be convinced that hunters are out to shoot Wood Ducks and that the Audubons are fighting to prevent it, the Audubons win themselves public acclaim and the hunters a collective black eye.

Once that propaganda is implanted, the way is paved for the Audubons to put over additional restrictive legislation, which,

in the end, will spell finis for wildfowling in this country.

Interesting and amusing! Typical of the argument of those constantly trying to misrepresent our policy and attitude toward legal hunting. And we're mighty glad to be supported by Trullinger in our view that there are indeed many duck hunters who do not wish the season opened on the Wood Duck; yet there is a considerable body of opinion among other duck hunters favoring an open season, and certain State fish and

game commissioners have taken the trouble to go to Washington to make official representations urgently requesting declaration of an open season. May we suggest that Mr. Trullinger stir his stumps a bit, get around the country, and find out what goes on?

#### *Full House*

**ALTHOUGH** heavily blitzed and panzered by insistent would-be enrollees, our camp department has perforce been adamant, holding, not without reason, that where 53 per session is absolute top, 53 is all we can accommodate. 'Early birds' have been justified, and waiting lists are surely good business for every enrolling institution.

This is the first year in which all five sessions have been fully enrolled as of the date of opening of the camp season in mid-June. By season's end, over 1200 different individuals will have attended the Audubon Nature Camp in six summers, and they will have registered for over 1400 two-week sessions.

The influence of graduates of our camp is growing apace, throughout the United States and Canada; about 70% are school superintendents, principals and teachers.

#### *Scholarships Popular*

**THROUGH** the generosity of certain members and friends, we have been able to offer each year a series of scholarships to leaders of the Boy Scout, Girl Scout and Camp Fire Girl organizations and we, as well as apparently they, are more than pleased at the results. Garden clubs and Audubon societies have increasingly taken to the idea of providing scholarships at the Audubon Nature Camp; over 150 of the 1200 graduates have come to us on scholarships. In this the coöperation of the Garden Club of America has been outstanding, and we are deeply grateful

to it, and especially to its Conservation Committee chairmen in recent years, Mrs. Robert C. Wright and Mrs. Andrew Murray Williams.

#### *Tours for Fall and Winter*

**BY** late October the great congregations of wintering geese and ducks will have arrived in the Sacramento Valley of California. To see and hear these masses of waterfowl milling about in the sky, honking, quacking, squealing, whistling, is a never-to-be-forgotten experience and gives a thrill that lasts. Here, in November, Bert Harwell, our California representative, will personally lead Audubon Wildlife Tours twice a week throughout the month, every Saturday and Sunday, every Monday and Tuesday.

The environs of Charleston, South Carolina, have ever been a favorite mecca for birders; this fall, in November and the first half of December, Alexander Sprunt will lead Audubon Wildlife Tours in this, his own bailiwick; through the coöperation of the U. S. Fish and Wildlife Service, boat transportation to Bull's Island will be available. That island, a great place for ducks and all coastal migrants, is part of the Cape Romain National Wildlife Refuge.

Again in February and March, and probably to mid-April, tours will be based at Okeechobee City, Florida, and two station wagons and leaders will be on deck. Word as to spring tours in California and Texas will appear in an early issue.

#### *The Draft and Research*

**AS** far as the regular office and field staff of your Society are concerned, the draft will apparently pass us by, especially now that the draft age maximum has been reduced.

But our research programs, usually carried out by young men, are threat-



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Photo by Allan D. Cruickshank

**A SHOVELLER FOR THE AUDUBON WILDLIFE TOURIST.** *The Cape Romain Refuge in South Carolina, where tours will be conducted during November and early December, is a concentration point for ducks and all coastal migrants.*

ened. Already Carl Koford, within six months of his goal on a three-year project, has been called to service in the Navy at Corpus Christi. It is our earnest hope that he may be able, a little later on, to complete his report; no one else could do as good a job with his assembled data; it is he who has had the intimate field acquaintance with the California Condor for the last two and one-half years.

In Florida Roy Komarek, working under supervision of Herbert Stoddard on the tick-deer project, calculated to run at least until April 1942, faces possible draft in September, following six-months' deferment requested by various sponsors of the undertaking.

#### *Senator Pepper on Warpath*

**S** 1476, dropped in the hopper not long ago by Senator Claude Pepper of Florida and referred to the Senate Committee on Indian Affairs, provides, in effect, that the Secretary of Interior be ordered to proceed forthwith to cooperate in the deer-killing program in Florida, as applied to Seminole Indian reservations, and especially that in Hendry County.

Your Executive Director appeared by invitation at hearing held by the Senate Committee on Indian Affairs and spoke as follows:

It is clear that there is no one in this room who wants to kill deer just for the sake of killing deer. There are some here who want to kill many of the deer, if not exterminate them, in certain Florida counties because some of those deer may harbor some ticks which may harbor some disease organisms, such that if some of those ticks harboring such disease organisms were to transfer from deer to cattle, some of these cattle might acquire 'tropical fever.' It therefore seems logical to deduce that every possibility of controlling these diseased ticks without killing their mammalian hosts should be exhausted before the killing program is pursued further. We believe those

possibilities have not yet been exhausted.

May I ask Senator Pepper whether he would feel it in order to recommend comparable killing program if it were now found, as seems possible, that one of the mammalian hosts of these tropical fever ticks is the Seminole Indian?

The history of the development of our nation is unfortunately replete with instances of governmental projects conceived, approved, and carried out without due consideration of the biological facts involved or of the biological consequences. The deer-killing program in Florida, to which this proposed bill relates, supplies an outstanding example of just such action based upon inadequate basic information.

When the Department of Agriculture and the Florida Livestock Sanitary Board desired to extend the deer-killing program into the Seminole Indian Reservation in Hendry County, Florida, the National Audubon Society was appealed to by the Department of the Interior to conduct an independent field research investigation of sufficient scope to ascertain the biological facts that would serve to enable the parties at controversy to resolve their issue on a sound scientific basis. In response to an inquiry from the Department of the Interior, the Department of Agriculture stated that it would not oppose such an investigation and that it acquiesced in the selection of Mr. Herbert L. Stoddard of Thomasville, Georgia, as the person to supervise and plan the field research, draw the conclusions and make report.

Mr. Stoddard is widely recognized as a scientist eminently capable of carrying out this assignment with care, impartiality, thoroughness and ability. He and his associates made a preliminary investigation in April 1941 and detailed field research work has now been going on for some time, with the Seminole Indian Reservation in Hendry County as a base.

Preliminary study indicates that, while a classic piece of work may have been done by official bodies in charge, in eradicating cattle fever and the cattle-fever tick (*Bosophilus annulatus*) over the Southeast in general, very inadequate studies have been made in the area where the 'tropical variety' (*B. annulatus australis*) occurs.

## THE DIRECTOR REPORTS TO YOU

Statistically significant numbers of terrestrial mammals, reptiles, and birds will have to be examined from sections of heavy known infection with the fever ticks (tropical variety)—which has not been done—and subjected to controlled experiments as well, before it can be safely assumed that none of these creatures other than deer act as hosts for this tick. The possibility that land-handling practices may have contributed to the build-up of ticks, and conversely, that the situation can be relieved by environmental manipulations should be investigated. A good deal of field checking of *assumptions* on which the deer-killing campaign has been based will undoubtedly have to be made.

Simultaneous with the examination of animals and the periodic examination of cattle, it is proposed to begin experimentation with fever ticks and possible host animals.

There are questions as to whether the pathogenic disease organism can be perpetuated in deer and other wild animals in the absence of cattle; whether it would be practical to eradicate the pathogenic organism instead of the fever tick.

Our belief and contention is that the scientific studies on which is based the deer-killing campaign in central and south Florida, where the so-called tropical variety of the cattle-fever tick prevails, are entirely inadequate and that until adequate studies have been completed, further encouragement of the deer-killing campaign should be withheld. In addition to opposing this bill, we believe we are making a constructive contribution through sponsoring and financing independent research project of adequate scope.

It would seem to be within the power of your committee to assist in providing time for determination of the facts by field studies and experimentation. We, therefore, venture to encourage your committee to kill this bill, S. 1476.

### *New Directors*

**Y**OU will recall that in an earlier issue we recorded the appointment by the Board of an official Nominating Committee, consisting of Mr. C. Russell Mason of Massachusetts as chairman,

Mrs. Harriet Williams Myers of California and Mr. Jerry E. Stillwell of Texas. This committee has submitted its report, and nominates for your consideration, at time of election at our Annual Meeting next October 21st, the following:

Mr. Gayer G. Dominick, Georgetown, D. C.

Professor J. R. Dymond, Toronto, Canada.

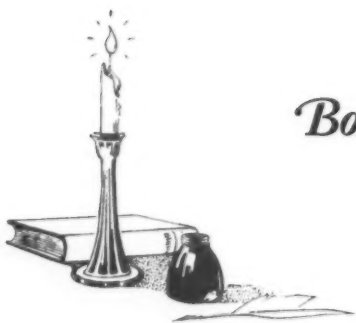
Mr. Ludlow Griscom, Cambridge, Mass.

Mr. James Moffitt, San Francisco, Calif.

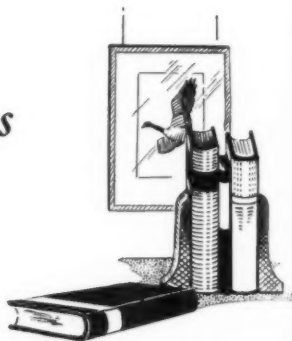
Dr. Robert Cushman Murphy, New York, N. Y.

Mr. Dominick and Professor Dymond are renominated, each having served not more than one three-year term. Dr. Murphy, who has served the Society in such outstanding fashion through the years, is renominated in accord with the by-law provision affecting officers. The new candidates, Messrs. Griscom and Moffitt, surely need no introduction to our readers; the one Research Curator of Zoölogy at the Museum of Comparative Zoölogy at Harvard, one of this generation's greatest field as well as indoor birders and botanists, and a Contributing Editor of AUDUBON MAGAZINE; the other Curator of Birds at the Academy of Sciences in Golden Gate Park, San Francisco, and currently President of our affiliated Audubon Association of the Pacific.

To Dr. Harold A. Anthony and Professor Aldo Leopold, whose terms as directors automatically expire in October, in accordance with by-law provision limiting directors who are not officers to two consecutive three-year terms, we are deeply grateful. Both have been unsparing in devotion of thought, time and energy to the Society's problems and advancement of its program and prestige.



## Book Reviews



A FIELD GUIDE TO WESTERN BIRDS. By ROGER TORY PETERSON. Illustrated with 6 color plates, 40 halftones, and 48 line cuts. Houghton Mifflin Co., Boston, 1941. 240 + xviii pp. \$2.75.

Reviewed by  
LUDLOW GRISCOM  
*Research Curator of Zoölogy, Museum of  
Comparative Zoölogy, Cambridge, Mass.*

Bird people and field students throughout the United States should welcome the long-awaited appearance of Peterson's 'Western Guide.' His now famous system of diagrammatic drawings, and the textual descriptions strictly confined to those distinguishing characters which the observer can note in the live bird at a distance, is at last available for every species of bird in the country. This system needs no further description in 1941.

The 'Western Guide' is a much greater and abler piece of work than the 'Eastern,' due to a variety of confusing and complex factors. The total number of named forms west of the 103rd meridian is very much larger. The East is noted for its uniform climate, its lack of mountain-range barriers, and enormous areas occupied by some dominant type of ecological association. In sharp contradistinction, the West is characterized by innumerable high mountain-range barriers, and a great variety of climates; the observer can be in five life zones in one day's birding;

the area covered by this guide contains some of the world's most arid deserts, its most humid sections, and borders on its greatest ocean. There follows a bewildering variety of special 'habitats,' with many birds strictly confined to just one type, in one climate, in a limited altitudinal belt.

There were consequently many problems for the author to solve; a 'guide' is not an encyclopedia, and where was he to draw the line? Most wisely he decided to omit details of range, habitat preferences, zonal and altitudinal distribution, and refers the reader to Hoffmann's 'Birds of the Pacific States' and a well-selected list of books and articles containing this information. Another vexing question was vernacular or English names. Many of these have unfortunately been 'manufactured,' often with very poor judgment. While every species of Song Sparrow is some kind of a Song Sparrow, most Westerners would have to stop and think, to recall that the Plumbeous and Cassin's Vireos are subspecies of the Blue-headed. An even worse case is the Savannah Sparrow, where certain well-known races are called the Aleutian Savannah, the Western Savannah, the Nevada Savannah, but another is called Bryant's Sparrow, thus conveying no idea of its specific relationship. With the chickadees the situation requires a

## BOOK REVIEWS

feat of memory. The Oregon Chickadee is a race of the Black-capped, a species name not in use in the West; Bailey's Chickadee is a Mountain Chickadee; the Columbian Chickadee is really one of the Hudsonian Chickadees; Barlow's Chickadee is a Chestnut-backed. There are innumerable cases in each of these categories, but in a small number the vernacular names of subspecies have passed into common usage, so that a perfectly consistent treatment is impossible. The author wisely adopts the use of the 'official' species name with most birds, but defers to well-established subspecies names in certain cases, such as the Calaveras and Pileolated Warblers, as nobody in the West uses Nashville and Wilson's Warblers.

This discussion leads naturally to the subspecies problem. In the West the great majority are indistinguishable in life, the validity of many is in dispute, many have been proposed since the 1931 'A. O. U. Check-List,' and large areas are occupied by intermediates between two subspecies. What to do in a text primarily for beginners? Several of the author's friends urged the elimination of subspecies altogether. He has again wisely compromised. No mention is made of any proposals since 1931. Only those are treated in the main text which are distinguishable in life; the others are merely listed with the statement "no apparent field differences"; there is an explanatory chapter on subspecies at the end of the book, including the ranges of the various races. In discussing those subspecies distinguishable in life, Mr. Peterson has erred on the side of conservatism, ignoring those cases where special expert study is required.

Coming now to the birds themselves and their diagnostic characters, the author, an Easterner with considerable experience with western birds, has been big enough to know that he did not

'know it all.' He has consequently freely sought and accepted advice and pointers from numerous local and regional experts, and has been generous in his acknowledgment of assistance given. This makes the book much more authoritative and complete, and adds to rather than detracts from the stature of the author, who still knows more of the birds really well than most of his consulting experts. The average treatment per species reaches a high order of excellence and completeness and is sometimes superlative, as with the gulls and the songs of the various White-crowned Sparrows. The plates and diagrams are again excellent, and fortunately their printing is superior to that in the 'Eastern Guide.'

The reviewer has for years been a warm friend and admirer of the author. To preserve some shreds of a reputation for detachment, he feels bound to mention a few minor points of criticism. In so large an undertaking, some inconsistencies of treatment are inevitable, and these center around immature plumages. The difficult hawks do not receive the same attention as the gulls, and the inexperienced student would be thoroughly out of luck trying to identify an immature (first-year) Mexican Black Hawk. In the case of many of the smaller land birds, I cannot figure out any consistent policy back of the inclusion of immature plumages here and their exclusion there, as with young bluebirds and Painted Redstarts. The treatment of the jaegers is still inadequate, and the plates are erroneous as regards the number of white-winged gulls.

Every person interested in 'western' birds should own and study this 'Guide,' and only a handful of field workers in any one generation will ever outgrow it. The reviewer, most emphatically, will never be one of them.

## AUDUBON MAGAZINE

ELEMENTARY ORNITHOLOGY. By W. J. BAERG. W. J. Baerg, Fayetteville, Ark., 1941. 68 pp. Rev. Ed., \$1.50.

Reviewed by

JOHN W. THOMSON, JR.,  
*School Nature League, American Museum of  
Natural History, New York, N. Y.*

There is a remarkable amount of information packed into the sixty-eight pages of this manual of ornithology. As a reference work for high school or college biology teachers, it will be of much value, but may seem somewhat formidable at first glance for the teacher who might wish to use it in nature study in the elementary school. A concise, staccato style of writing summarizes much information on North American bird life, and lists of references will undoubtedly stimulate the user of this manual to more complete studies.

Curiously, the objective of this text, as stated by the author, would be more appropriate for a handbook of identification than a statement of general principles of ornithology. It is "to assist the student who is interested in birds in learning to recognize the various species." Unusual also, in view of the excellent photographs of birds available, is the lack of illustrations which would make an introduction to any such study much more attractive and interesting. For the elementary school teacher a glossary would be a very valuable addition.

Discussions are given on such topics as history, geology, economic value, food habits, anatomy, intellect, longevity, song and territory, nesting, flight, migration, pests, and game birds. Much recent information, scattered through the journals, has been included in these discussions. The text is printed on one side of the paper, two columns to the page, in very readable type.

*For the convenience of our readers, all books listed above, with the exception of State and Federal publications, may be purchased from the Service Department of the NATIONAL AUDUBON SOCIETY.*

## *Briefly Noted*

*Birds of Lucas County*, by Louis W. Campbell. This 225-page report is a valuable ecological study of the 301 species and subspecies known to occur in Lucas County, Ohio, mostly compiled from the author's 1300 field trips over a period of thirteen years. The forepart includes a regional map and description of the principal habitats, with an enumeration of the species common to each. The major portion consists of an annotated list of the birds and their general status in Ohio. Appended are various useful tables. From the standpoint of conservation, the book will be sure to broaden the horizon of the enthusiastic bird lister by making him more aware of the important rôle of environmental factors in relation to the abundance of bird species. (Toledo Museum of Science Bulletin, Vol. 1, No. 1, Toledo, Ohio.)

*Bird Houses, Baths, and Feeding Shelters, How to Make and Where to Place Them* by Edmund J. Sawyer. We have, here at Audubon House, seen dozens of publications on bird houses, but none so refreshingly done as this one. This, the most popular bulletin in the series published by the Cranbrook Institute, is now in its third edition, to which has been added a number of new ideas, such as a practical design for a House Finch box, a sparrow 'bouncer,' designed to discourage uninvited sparrows from using bird boxes, and some very good plans for bird baths and feeding stations, including the weather-vane type. The pen and ink illustrations by the author are very well executed. (Cranbrook Institute of Science, Bloomfield Hills, Mich., 1940, 20c.)





## The Changing Seasons

By

LUDLOW GRISCOM



THE spring weather map for the United States was one of violent contrasts. The Southeast had normal temperatures but complained of drought. The balance of the eastern third of the country had not only dry weather, but abnormal heat. In many sections records tumbled and the vegetation was two to three weeks ahead of normal. More important for the ornithologist, the weather was pleasant; few storms or cold waves caused any set-backs to the migration. All contributors report a poor and disappointing season, with few or no great 'waves,' or days on which transients were notably abundant.

One of the most surprising features in the Northeast was that the hot weather and the very early development of the vegetation did not show a correspondingly early bird migration. Barring a few very early individuals, the mass arrivals were almost as nearly 'average' as possible. Moreover, the migration was protracted and was a little late in coming to an end. From New York northward, it appeared to be waning about May 21, and began all over again six days later! Chicago alone reports some of the expected correspondence. Out of 110 regular species, 81 arrived a week or more early, while 26 averaged about five days late. Local observers had, of course, no explanation for these condi-

tions. We have here an excellent illustration of the value of 'The Season' reports. It so happens that the late May transients in the Northeast come predominantly from the Mexican-Texas route; and Texas reports that these birds were about one week late.

When the term "a poor migration" is used, the reader must understand that it is from the point of view of the observer, not actually the birds themselves. Various factors caused the observer to see fewer birds than usual; just as many as ever actually streamed north through the United States to their breeding grounds. Another disappointment for the observer was the lack of great rarities and stragglers. These appear to be found chiefly when the usual species are particularly abundant, and arrive *en masse* overnight. Chicago again is the only exception, this region reporting an extraordinary number of great rarities.

Passing westward to the Great Plains, abnormally wet weather was the feature of the spring. North Dakota reports a year's rainfall in the first five months! Texas reports a very good migration and an excellent breeding season for most of the water birds on the reservations and sanctuaries. The Dakotas report a poor land-bird migration, but a great increase in breeding grebes (5 species), especially on some of the Federal refuges.

*'The Season' reports appear, as usual, in Section II of this issue of AUDUBON MAGAZINE.*

In California, there were exceptionally heavy rains, producing a bountiful food supply and favorable conditions for many birds. Southern California reports a normal spring migration, but northern California had a late, cold spring and a poor and late migration, though the weather conditions had much more effect on breeding populations. We note in passing that climatic conditions in northern California were the diametrical opposite of those on the Atlantic seaboard. Band-tailed Pigeons, Lewis's Woodpeckers and Varied Thrushes reached southern California in unusual numbers, and there was a marked flight of Pacific Loons in northern California in late April.

The increase northward of 'southern' herons continues from Massachusetts to Ohio.

The duck migration was only fair to poor in most of the Northeast. The geese of various species all had good flights; Merrymeeting Bay, Maine, is a notable concentration ground for Canada Geese, and the peak this year was about 50,000. Brant showed a marked increase, but a regrettably large number were still lingering into June from Massachusetts to southern New Jersey, suggesting undernourishment. Blue Geese again appeared sporadically east of their normal route to Ohio and even Rhode Island. One feature of the duck migration was the number of lingerers—to unprecedented dates from Ohio to Massachusetts; certainly not to have been expected in a particularly hot and early spring.

The shore-bird flight was good on both coasts, but poor in the interior, with a scattering of records for the Hudsonian Curlew from Chicago, Minnesota and North Dakota, where it is very rare. Missouri reports 3 Hudsonian Godwits on May 12, and on exactly the same day it was found for the first time in South Carolina.

There is further news about the great flight of northern finches. Red Crossbills arrived in some numbers in the Northeast during April. In Massachusetts, at least six different localities produced definite records for the Sitka Crossbill, but the normal eastern subspecies increased in numbers also. The species lingered into early May south to New York, Philadelphia and Ohio. White-winged Crossbills are reported from Pennsylvania on May 7 and Ohio on May 17. Siskins are recorded from western Florida on April 8; they were abundant to the end of May in parts of the Northeast and sporadic pairs attempted to breed here and there.

The scarcity of certain species still reflects the mortality sustained in the winter of 1940. Outstanding cases of birds still reduced in numbers in many sections are Killdeer, Wilson's Snipe, Tree Swallow, Winter and Short-billed Marsh Wren. Others have obviously recovered in some measure, as in the case of such birds as Woodcock, Phoebe, Hermit Thrush, and Savannah Sparrow.

Lack of space forbids the inclusion of many interesting but more local notes.  
—Cambridge, Mass., July 8, 1941.

### *Have You Mailed Your Breeding-Bird Census?*

AUDUBON MAGAZINE'S Fifth Breeding-Bird Census will be published, as usual, in Section II of the September-October issue, and all contributions intended for publication should reach the Editor (1006 Fifth

Avenue, New York, N. Y.) not later than August 18. All new censuses should follow the form and regulations as outlined in the March-April 1938 issue of the magazine. Reprints of this are still available upon request.

## AMONG THE AUTHORS

**Lawrence I. Grinnell** (p. 327), a graduate of Harvard University in 1912, retired from business in New York three years ago in order to devote his time to ornithology at Cornell University. During the last three summers, he has studied and filmed birds at the Bear River National Wildlife Refuge in Utah, the north shore of the Gulf of St. Lawrence, and the Hudson Bay region, the latter trip

being described in this issue of **AUDUBON MAGAZINE**. The summer of 1941 finds him again photographing birds and collecting plants, his time in central Alaska together with Mrs. Grinnell. For over twelve years he has been actively interested in outdoor activities, having served as a vice-president of the Appalachian Mountain Club, with whose coöperation he recently published a booklet entitled *Canoe Trips within 100 Miles of New York.*

**William I. Holzmark** (p. 351) became interested in photography about five years ago, and almost simultaneously in birds. Wild-

life has always been his hobby, however, reptiles being the first objects of natural history to arrest his attention. He has collected them since grammar school days. In spite of the fact that bird photography is now one of his major interests, any form of wildlife is

danger of becoming a photographic subject could he be fortunate enough to discover it either around his home in University City, Missouri, or on trips farther afield. Although he has had no formal education along these lines, he hopes some day to have the opportunity of taking certain courses in zoölogy.

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